TO STUDY THE EFFECT OF DEXMEDETOMIDINE PREMEDICATION ON EMERGENCE AGITATION

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Dedicated

to

My Mother

Mrs. Reena

Wadhwa

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Onwards and upwards!

Dr. Divya Wadhwa

LIST OF ABBREVIATIONS

DBP	Diastolic Blood Pressure
EA	Emergence agitaion
GA	General Anaesthesia
MAP	Mean arterial Pressure
RASS	Riker Agitation and Sedation Scale
SBP	Systolic Blood Pressure

ABSTRACT

Introduction: Emergence agitation (EA) is a transient unpleasant condition which occurs during recovery from inhalational general anesthesia. Various medications have been used for prevention and treatment of EA with varying degrees of success and side effects. Intraoperative use of dexmedetomidine has shown to reduce incidence of EA and facilitate smooth recovery from general anesthesia without any side effects. Preoperative anxiety is one of the risk factors for EA, hence decrease in preoperative anxiety with the use of dexmedetomidine could further decrease the incidence of EA. However, studies which have evaluated the use of preoperative dexmedetomidine for prevention of EA in adults are limited. Therefore we propose to evaluate the role of preoperative dexmedetomidine on EA in adults undergoing laparoscopic abdominal surgeries.

Aim of Study: We aim to evaluate the role of premedication with dexmedetomidine on emergence agitation in patients undergoing laparoscopic abdominal surgeries under general anesthesia.

Materials & Methods: A randomized control study will be conducted on 140 patients divided into two groups of 70 each. Infusion of dexmedetomidine (1 mcg/kg) will be given over 20 minutes in the preoperative area in group D and normal saline infusion will be given in group N. The EA would be scored after extubation and in post anesthesia care unit using the Riker sedation and agitation scale.

Result: The incidence of emergence agitation (EA) was notably reduced in Group D, with only 2.9% of patients affected, compared to 48.6% in Group N. Additionally, the emergence time was significantly extended in Group D, averaging 10.53 ± 1.36 minutes, as opposed to 5.60 ± 0.87 minutes in Group N**.**

Conclusion: The dexmedetomidine group exhibited a significantly lower incidence and severity of emergence agitation (EA) and maintained stable intraoperative hemodynamics. However, patients in the dexmedetomidine group experienced notably longer extubation and emergence times.

Keywords: Emergence agitation, dexmedetomidine, Riker agitation and sedation scale

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INTRODUCTION

“Emergence agitation (EA)” is a temporary state that occurs during recovery from general Anaesthesia (GA) and the patient exhibits symptoms of agitation, confusion, aimless actions, inconsolable distress, violent movements, and incoherent speech[1]. EA generally appears within the first 60 minutes after Anaesthesia but can sometimes last longer[2].

It is crucial to distinguish EA from emergence delirium (ED), which is characterized by acute confusion, lack of attention, disorganized thoughts, altered cognitive function, and disturbed psychomotor behavior. In contrast, EA generally does not involve major cognitive or behavioral alterations[3].

The understanding of EA remains incomplete due to several challenges, including the lack of a universally accepted definition, the absence of reliable assessment tools, the difficulty in differentiating between agitation, delirium, and pain, and the uncertainty regarding its clinical significance[4].

The occurrence of EA varies significantly and is affected by multiple factors, such as the type and length of surgery, as well as the patient's age, the anesthetic agents used (particularly sevoflurane[5] and desflurane[6]), the presence of invasive devices, pain, hypothermia, and preoperative anxiety[7]. According to Kun Ni et al. (2023)[8], preoperative anxiety affects between 11% and 80% of adult patients and is a significant contributor to increased EA incidence. The repercussions of EA can be serious, leading to self-extubation, removal of catheters or dressings, aspiration pneumonia, bleeding, the necessity for surgical re-exploration, and cardiovascular instability[9]. These complications may extend recovery room stays and elevate healthcare costs[10]. The pathophysiological [6] mechanism behind EA after laparoscopic abdominal surgeries remains not entirely understood, though various theories have been proposed. One suggests that the use of short-

acting anesthetic agents can cause a rapid emergence[11], leading to a dissociative state where patients regain consciousness before their cognitive functions have fully recovered. Another theory points to postoperative pain, especially from port sites and residual pneumoperitoneum, as a contributing factor to agitation during emergence. The absorption of CO2 used for pneumoperitoneum might lead to hypercarbia and cerebral vasodilation, which could cause confusion and agitation. Additionally, fluid administration during these procedures may result in bladder distension, causing discomfort and subsequent agitation.

Risk factors[12] for EA in adults undergoing laparoscopic abdominal surgeries include age, and gender, with some studies indicating a higher incidence in males[13]. High levels of preoperative anxiety are linked to an increased risk of EA[7], and longer surgical procedures may also elevate this risk[12]. The type of Anaesthesia used is another factor; volatile anesthetics like sevoflurane and desflurane have been linked to a higher rate of EA compared to total intravenous Anaesthesia (TIVA)[14-16]. Inadequate pain management[12] is a significant risk factor, as is hypoxemia due to residual neuromuscular blockade or hypoventilation. Recognizing these risk factors is essential for identifying high-risk patients and implementing preventive measures in laparoscopic abdominal surgeries. Laparoscopic abdominal surgeries, despite their advantages such as reduced tissue injury and shorter hospital stays, are often associated with significant preoperative anxiety and postoperative pain[17]. Addressing preoperative anxiety could potentially reduce the incidence of EA[1].

Both pharmacological and non-pharmacological strategies are used to prevent and treat EA. Non-pharmacological approaches include patient education, early removal of invasive devices, and allowing parental presence during induction and recovery in pediatric cases.[12]

Various medications have been used for preventing and treating EA, such as propofol[12,18,19], opioids[12,20], ketamine[12,21], magnesium

sulfate[12,22], benzodiazepines[12,23], and dexmedetomidine[12,24-26], etc with varying degrees of success. Seok-Jin and Tae-Yun Sung[12] in March 2020 evaluated the use of various agents for the prevention of EA. Propofol has been the most preferred drug for treatment and prevention of EA, but it requires continuous infusion during maintenance of Anaesthesia intraoperatively and additional bolus is required at the end of surgery to prevent EA[12]. This leads to delayed awakening. Opioids including fentanyl[20], sufentanil, alfentanil have also been shown to reduce the incidence of EA. The intraoperative infusion of opioids also reduces the non purposeful movements but opioids result in delayed awakening, nausea, vomiting, respiratory depression[12]. Tramadol[27] a centrally acting opioid, can lead to dizziness, diarrhea/constipation, sweating, and nausea/vomiting. Ketamine[12,21] possesses sedative, amnestic, and analgesic properties. Administering ketamine towards the end of surgery has been shown to reduce the incidence of EA, but it also extends Anaesthesia time due to delayed recovery and can lead to psychedelic symptoms (hallucinations, panic attacks), nausea, vomiting. Magnesium sulfate[12] has central sedative and neuroprotective actions. The anticonvulsant action of this drug reduces the incidence of EA which is seen only when used in the form of continuous infusion intraoperatively. It can lead to hypotension, confusion, diminished reflexes and prolonged duration of muscle relaxants.[12,22]

Dexmedetomidine[12,24-26] is highly effective in preventing EA compared to ketamine, propofol, magnesium sulfate, and fentanyl. It exerts anxiolytic, analgesic, sedative, and sympatholytic effects by stimulating alpha-2 receptors in the central nervous system, reducing neuronal activity and promoting vagal activity.The activation of alpha-2 receptors in locus coeruleus leads to sedation, while its action in the spinal cord inhibits the secretion of substance P, directly reducing pain transmission and providing an analgesic effect. Dexmedetomidine has proven effective in decreasing EA in both pediatric and adult patients, as well as aiding in ventilator weaning in intensive care settings.

Research indicates it also lowers opioid usage, diminishes pain intensity, and reduces stress responses, enhancing post-surgical recovery quality[28]. By delivering sedation without causing significant respiratory depression, dexmedetomidine stands out as a highly effective agent for preventing EA.

Various scales[12] are employed to gauge the severity of agitation, including the Richmond Agitation Sedation Scale, Riker Agitation-Sedation Scale (RASS)[29], Confusion Assessment Method for the Intensive Care Unit (CAM-ICU), Delirium Observation Screening (DOS) Scale, Pediatric Anaesthesia Emergence Delirium (PAED) Scale, and Delirium Rating Scale (DRS). The RASS, specifically used in intensive care units (ICUs), allows healthcare providers to assess and monitor levels of sedation and agitation systematically. This aids in adjusting sedative medications to maintain appropriate sedation levels, preventing both over-sedation and under-sedation. Clinically, EA is characterized by a Riker Sedation-Agitation Scale score of 5 or higher, with a score of 7 indicating severe agitation.

"RIKER AGITATION SEDATION SCALE(RASS)"[29]

7." Dangerous agitation"
Tries to remove monitors and devices or climb out of bed; tosses and turns; lashes out at staff
6. "Very agitated"
Remains restless despite frequent verbal reassurance; requires restraint
5. "Agitated"
Anxious or restless; attempts to move; calms down with reassurance
4. "Calm and cooperative"
Calm; easy to arouse; able to follow instructions
3. "Sedated"
Difficult to awaken; responds to verbal prompts or gentle shaking but drifts off again
2." Very sedated"

Incommunicative; responds to physical stimuli but not verbal instructions; may move spontaneously

1.” Unarousable”

Incommunicative; little or no response to painful stimuli

The current literature on EA mainly focuses on the pediatric population and oral, nasal, ENT surgeries. Also, the use of intraoperative dexmedetomidine has been well studied but the role of preoperative use to alleviate preoperative anxiety has not been much studied. The present study is designed to study the role of preoperative dexmedetomidine infusion on postoperative emergence agitation and recovery profile in adults after laparoscopic abdominal surgeries in a prospective randomized double-blind study.

AIMS & OBJECTIVES

- To evaluate the effect of preoperative intravenous infusion of dexmedetomidine on Emergence agitation.
- To study the effect of premedication with dexmedetomidine on hemodynamic parameters and adverse effects, if any.

REVIEW OF LITERATURE

As described by **Millers'** emergence is the most distractive period as compared to induction and maintenance of Anaesthesia in relation to the staff and environment of the operation theatre. The period of emergence is high risk and a high workload for Anaesthesia professional.[30]

EA is a postoperative issue marked by restlessness, disorientation, excitement, and purposeless movement during recovery from GA. While it has been thoroughly investigated in pediatric patients, studies on EA in adults are scarce, especially in laparoscopic surgeries. The occurrence of EA varies widely, with prevalence rates ranging from 0.25% to 90.5%. This variability is influenced by factors such as age, assessment methodologies, Anaesthesia approaches, surgical types, and timing of evaluations.

Eckenoff et al[31] first documented emergence agitation (EA) in 1960, describing it as "emergence excitement" in a study involving over 14,000 patients undergoing surgery with general anaesthesia. They identified several risk factors for EA, including young age, the use of barbiturates, and painful surgical procedures.

Kain et al.[7] conducted a study in 2004 that established a connection among preoperative anxiety, emergence delirium, and postoperative maladaptive behaviors. Their findings indicated that lowering preoperative anxiety might reduce the incidence of negative postoperative behavioral changes. This study was pioneering in demonstrating that symptoms of emergence delirium and adverse postoperative behavioral changes could be attributed to preoperative anxiety levels.

Garg et al. (2018)[32] examined the impact of intraoperative dexmedetomidine infusion on EA during nasal surgeries. They observed more stable hemodynamics during both surgery and extubation in the group receiving dexmedetomidine. However, they

also noted potential disadvantages, including prolonged recovery times, such as extended duration to extubation and longer discharge times from the PACU.

Mostafa et al.[25] conducted a randomized controlled study to assess the impact of varying doses of dexmedetomidine on EA following laparoscopic cholecystectomy. Ninety patients were randomly allocated to receive an intraoperative infusion of dexmedetomidine at doses of 1 μg/kg, 0.75 μg/kg, or 0.5 μg/kg administered over 20 minutes before the completion of surgery. The study concluded that all three dexmedetomidine doses effectively reduced the incidence of EA. However, the research did not account for other preoperative factors, such as anxiety, that might influence EA occurrence.

In their study, Kim et al.[24] investigated the efficacy of preoperative dexmedetomidine in mitigating the occurrence and intensity of EA among adults undergoing nasal bone fracture reduction. Ninety participants were randomly divided to receive either dexmedetomidine (administered at 1 μg/kg over 10 minutes) or saline before the surgical procedure. Using Aono's four-point scale to assess EA, they observed significantly lower scores in the dexmedetomidine-treated group. Moreover, the dexmedetomidine group exhibited a notable decrease in the frequency, severity, and duration of agitation episodes.

Choi et al.,[26] explored the effects of an initial dose of dexmedetomidine on agitation and recovery outcomes following laparoscopic cholecystectomy. Ninety patients were administered either dexmedetomidine 0.5 μg/kg or saline 5 minutes post-Anaesthesia induction. The study revealed significantly lower heart rates and mean blood pressures in the dexmedetomidine group. Moreover, the incidence of EA during extubation was considerably lower in the dexmedetomidine group (23%) ($p < 0.001$).

In their study, Wang et al.[34] examined the impact of dexmedetomidine on EA in 120 patients undergoing laparoscopic gastrectomy. Patients

received either dexmedetomidine (0.4 μg/kg/h) or saline infusion during the surgery. The dexmedetomidine group showed a markedly lower incidence of EA. Furthermore, the study noted improved hemodynamic stability and decreased postoperative pain in the dexmedetomidine-treated patients, supporting its application in laparoscopic abdominal procedures.

Several studies have compared dexmedetomidine to other agents for preventing EA in laparoscopic surgeries.

Arora et al.,(2020)[35] examined the effectiveness of low-dose ketamine and dexmedetomidine in preventing emergence agitation (EA) following laparoscopic cholecystectomy. The study utilized ketamine at 0.25 mg/kg and dexmedetomidine at 0.5 μg/kg. Results indicated that both medications were more effective than placebo in reducing EA incidence. However, dexmedetomidine exhibited additional advantages, particularly in terms of improved postoperative analgesia and enhanced recovery quality when compared to ketamine.

Although research generally favors dexmedetomidine for EA prevention in laparoscopic procedures, it's crucial to weigh its potential adverse effects. Commonly observed side effects include a decrease in heart rate and blood pressure[36], particularly when administered at higher doses or too quickly. Some research has noted a slight increase in time to extubation with dexmedetomidine usage, though this delay is typically not considered clinically significant.

A notable advantage of dexmedetomidine is its minimal impact on respiratory function, unlike opioids. This characteristic makes it particularly valuable in laparoscopic surgeries, where patients may already experience compromised breathing due to the pneumoperitoneum created during the procedure.

Bielka et al., (2018)[37] examined the effects of dexmedetomidine infusion during elective laparoscopic cholecystectomy. The study, which involved 60 participants, revealed several beneficial outcomes

associated with dexmedetomidine use. They found that patients receiving dexmedetomidine required significantly less morphine postoperatively. They also reported a decrease in the incidence of severe pain after surgery and an extended period before patients needed rescue pain medication The study noted reduced intraoperative fentanyl requirements and a lower occurrence of postoperative nausea and vomiting in the dexmedetomidine group. Based on these results, the authors concluded that dexmedetomidine administration contributes to enhanced pain management outcomes in patients undergoing laparoscopic cholecystectomy.

Qin Ye et al., (2021)[38] investigated the effects of different dexmedetomidine doses in patients undergoing laparoscopic cholecystectomy. The researchers administered dexmedetomidine intravenously before Anaesthesia induction. Their findings indicated that a 0.6 μg/kg dose of dexmedetomidine was particularly effective. This dosage helped maintain stable cardiovascular parameters during the procedure, reduced the frequency of coughing as patients emerged from Anaesthesia, and improved post-surgical pain management. The study compared three different dosages: 0.4 μg/kg, 0.6 μg/kg, and 0.8 μg/kg. Among these, the 0.6 μg/kg dose appeared to offer the best balance between therapeutic benefits and recovery time.

A study by Chilkoti et al., (2020)[39] examined the effects of dexmedetomidine in laparoscopic cholecystectomy patients. This randomized, double-blind, placebo-controlled investigation focused on a low-dose intravenous dexmedetomidine infusion (0.5 μg/kg/hr). They found that this dexmedetomidine regimen significantly improved postoperative pain management, as evidenced by a marked reduction in analgesic use over the first 24 hours after surgery. Another finding was dexmedetomidine's ability to mitigate the body's stress response to various aspects of the procedure. Compared to saline, dexmedetomidine effectively dampened cardiovascular reactions to laryngoscopy, tracheal intubation, pneumoperitoneum creation, and

extubation. The study reported no significant adverse effects associated with dexmedetomidine use at this dosage. These results suggest that low-dose dexmedetomidine infusion can be both effective and safe for patients undergoing laparoscopic cholecystectomy.

A randomized investigation conducted by Singha et al.,[40] in 2022 explored the dosage of dexmedetomidine for chronic smokers undergoing total extraperitoneal laparoscopic inguinal hernia repair. Their research indicated that administering dexmedetomidine at 0.75 µg/kg yielded the most favorable extubation conditions while maintaining cardiovascular stability. The study found that this specific dosage effectively reduced the body's stress response during extubation. They observed that increasing the dose beyond this level led to heightened sedation and a higher incidence of bradycardia. The lower doses were less effective in stabilizing patients' cardiovascular parameters during the extubation process.

Shui et al., (2021)[41] conducted a meta-analysis comparing the postoperative recovery quality between total intravenous Anaesthesia (TIVA) and inhalational Anaesthesia in patients undergoing non-cardiac surgeries. Their comprehensive review encompassed nine randomized controlled trials, involving a total of 922 participants. The analysis revealed a significant advantage for TIVA in terms of overall recovery quality. Specifically, they found that patients who received TIVA demonstrated notably higher total QoR-40 scores on the day of their surgery compared to those who received inhalational Anaesthesia.

Wang et al.,[42] conducted a randomized controlled trial examining the effects of two anesthetic agents, propofol and sevoflurane, on elderly patients undergoing spine surgery. They assessed the frequency of delirium episodes following surgery as a primary outcome. They also evaluated various aspects of recovery quality in the patients receiving each anesthetic.

Panchgar et al., (2017)[43] examined the effects of dexmedetomidine in laparoscopic procedures. Their research revealed that dexmedetomidine was effective in mitigating the body's stress response during surgery, leading to fewer instances of elevated blood pressure and rapid heart rate. They also noted that patients who received dexmedetomidine experienced a longer period without pain after surgery, which resulted in a decrease in the overall amount of pain medication required. The study found that dexmedetomidine had few adverse effects. They observed bradycardia in only two cases among the study participants. Based on these findings, they suggested that dexmedetomidine could be considered a good adjunct medication for Anaesthesia in laparoscopic surgeries.

Radtke et al.,(2010) [44] In their study identified that inadequate emergence after Anaesthesia, comprising emergence delirium and hypoactive emergence, occurs in 8.2% of adult patients. Key risk factors for emergence delirium include premedication with benzodiazepines, induction with etomidate, extreme ages (below 40 and above 64), high postoperative pain scores, and musculoskeletal surgery. For hypoactive emergence, risk factors include younger age, long surgery duration, and intraabdominal surgery. Hypoactive emergence, though less frequent, is associated with prolonged hospital stays. Addressing these preventable risk factors could reduce the incidence of inadequate emergence and improve postoperative outcomes.

Fasil et al.,(2022)[45] In this study concluded that preoperative administration of a single bolus of 1 μg/kg IV dexmedetomidine is safe and effective in maintaining perioperative hemodynamic stability in patients undergoing elective laparoscopic surgeries. Although some patients experienced bradycardia and hypotension, these effects were manageable and did not lead to adverse outcomes. Additionally, dexmedetomidine significantly reduced the incidence of shivering, demonstrating its overall benefit in perioperative care.

Miao et al., (2020)[46] conducted a meta-analysis and concluded that the intravenous administration of dexmedetomidine as an anesthetic adjuvant to general Anaesthesia significantly improves the quality of recovery in adult patients after elective surgery, as measured by the QoR-40 questionnaire. Furthermore, dexmedetomidine does not appear to increase the risk of adverse events in the early postoperative period, supporting its efficacy and safety in enhancing postoperative recovery.

Segovia et al., (2014)[47[conducted a clinical trial that concluded that intranasal dexmedetomidine is more effective than oral midazolam in reducing preoperative anxiety in pediatric patients aged 2-12 years. Anxiety was significantly lower in the dexmedetomidine group at various stages (60 minutes preoperatively, induction, and recovery). Dexmedetomidine reduced the risk of anxiety by 28%, with a number needed to treat (NNT) of 4 to prevent one case of anxiety. Despite significant changes in heart rate, mean arterial pressure, and oxygen saturation in the dexmedetomidine group, no clinical consequences such as bradycardia, hypotension, or oxygen desaturation were observed.

Sheikhzade et al., and J. Lerman[15,16] compared sevoflurane-based Anaesthesia and total intravenous Anaesthesia (TIVA) with propofol in children aged 2 to 10 undergoing outpatient surgery. It found that while sevoflurane led to a quicker recovery from Anaesthesia, TIVA significantly reduced postoperative pain and agitation. There were no significant differences in demographic characteristics or rates of nausea and vomiting between the groups, though a significant decrease in heart rate was noted in the TIVA group. Consequently, TIVA with propofol is recommended for its efficacy in pain and agitation management, enhancing parental satisfaction, and reducing the recovery room staff's workload.

In conclusion, the available literature strongly supports the efficacy of dexmedetomidine, particularly as premedication, in preventing and

managing emergence agitation in patients undergoing laparoscopic surgeries. Its unique pharmacological profile, combining sedative, anxiolytic, and analgesic properties without significant respiratory depression, makes it particularly suitable for this surgical population. However, further research is needed to determine optimal dosing strategies for different types of laparoscopic procedures and to investigate long-term outcomes associated with dexmedetomidine-mediated EA prevention in laparoscopic surgeries.

MATERIALS AND METHODS

SOURCE OF DATA

After approval from the institution's ethics committee, the study was conducted in a randomized controlled method on 140 adult patients of either sex posted for elective abdominal laparoscopic surgery under GA. A written informed consent was obtained from each patient before entry into the study. Patients were randomly allocated into two equal groups of 70 each by computer-generated randomized codes contained in sealed, sequentially numbered envelopes.

METHOD OF COLLECTION OF DATA

Inclusion criterion:

a) Age: 18-65 years

b) ASA 1,2,3.

Exclusion criterion:

a) Severe systemic illness (cardiac, hepatic, renal, pulmonary, neurological, psychiatric)

b) substance abuse disorder

c) pregnant women

d) allergy from study drug

e) On psychotropic drugs

f) BMI >35 kg/m2

g) On medication (beta-blockers, alpha2 agonists, opioids, clonidine)

h) surgeries lasting more than 2 hours

Group Allocation

Group D: Infusion of dexmedetomidine in the dose of 1 mcg/kg in 20 ml normal saline was given over 20 minutes in the preoperative area before shifting to OT.

Group N: Infusion of 20 ml of normal saline was given over 20 minutes in the preoperative area before shifting to OT.

TECHNIQUE:

On arrival in the preoperative room, standard monitoring in the form of electrocardiography, pulse oximetry, and a non-invasive blood pressure cuff was applied to each patient. After securing the intravenous access patients were administered study drugs according to their group allocation by a resident doctor who was not involved in any other part of this study. Vitals were noted every 5 minutes during administration of the drug till 10 minutes after the drug was administered. No other sedative premedications were given to study participants. After 10 mins of drug administration patients were shifted to the operation theater.

On arrival in the OT, the level of agitation using the 7-point Riker agitation sedation scale was assessed before anesthetic drug administration.

"RIKER AGITATION SEDATION SCALE(RASS)"

7." Dangerous agitation"

Tries to remove monitors and devices or climb out of bed; tosses and turns; lashes out at staff

6. "Very agitated"

Remains restless despite frequent verbal reassurance; requires restraint

5. "Agitated"

Anxious or restless; attempts to move; calms down with reassurance

4. "Calm and cooperative"

Calm; easy to arouse; able to follow instructions

3. "Sedated"

Difficult to awaken; responds to verbal prompts or gentle shaking but drifts off again

2." Very sedated"

Incommunicative; responds to physical stimuli but not verbal instructions; may move spontaneously

1.” Unarousable”
Incommunicative; little or no response to painful stimuli

Monitors in the form of pulse oximetry, noninvasive blood pressure, and electrocardiography were attached inside the operation theater and readings were noted. Patients were preoxygenated with 100% oxygen for 3-5 minutes followed by premedication with Inj midazolam 0.1mg/kg and Inj. Fentanyl 2mcg/kg intravenously. Induction was done with Inj propofol 2 mg/kg slow IV until loss of eyelash reflex. Inj atracurium 0.5mg/kg was given for muscle relaxation 3 minutes before laryngoscopy. Endotracheal intubation was done using an endotracheal tube of appropriate size under direct laryngoscopy and secured at an angle of the mouth after checking for bilateral equal air entry in the chest. The cuff was inflated with air and cuff pressure was maintained between 18-22 cm of water with the use of a pressure monitoring transducer. Anaesthesia was maintained using O2:air (1:1) and Sevoflurane(2-4%). Depth of Anaesthesia was monitored using the Bispectral index. Sevoflurane was adjusted to keep a BIS of 40-60. Inj. Atracurium 0.1mg/kg maintenance dose was given for muscle relaxation. The lungs were mechanically ventilated to keep intraoperative Etco2 between 35-40mmHg. Inj. Paracetamol 1gm i.v. And inj. Ondansetron 4 mg was given 30 minutes before extubation for analgesia and postoperative nausea and vomiting. At the end of surgery when surgical dressing was applied sevoflurane was stopped and the time will be noted (T0). Neostigmine 0.05mg/kg and glycopyrrolate 0.01mg/kg for reversal were used and the patient was extubated after recovery of adequate muscle power of the diaphragm. The time of extubation was noted as T1.

Heart rate, noninvasive blood pressure, pulse oximetry, and Etco2 were recorded after intubation and then every 5 minutes during the intraoperative period till the patient was shifted to post Anaesthesia care unit (PACU). Bradycardia was treated with i.v. Atropine 0.5mg and hypotension was treated with IV ephedrine 3 mg increments and noted.

The patients were shifted to PACU after they told their name and the time of verbal response will be noted as T2.

During the period between extubation and shifting to PACU (T1 to T2), the level of agitation was evaluated using the Riker agitation sedation scale immediately after extubation and thereafter every 5 minutes till the patient told his name and was shifted to PACU (T2). Agitation was evaluated immediately on shifting to PACU and after one hour of stay in PACU. The vitals along with the VAS score were measured after every 5 minutes for one hour in the PACU. VAS ≥ 4 was treated with rescue analgesic Inj Fentanyl 25 µgm i.v. And repeat after 15 mins if required. Emergence time was calculated as the time interval between T2 and T0 (T2-T0). Duration of Anaesthesia and duration of surgery will be recorded.

EA was defined as a Riker score >5 after extubation.
Residual sedation was defined as a score of <3 After extubation.

- **Duration of Study/ Number of Cases:**

By using a previous study by Choi et al in 2021 as a reference, the effect on emergence agitation is 40% in the control group and 17.8% in the dexmedetomidine group.

Based on this assumption

The formula used in the situation is as under:

$$n = \frac{[Z\ 1-\alpha/2\ \sqrt{2}\ P\ (1-P) + Z\ 1-\beta\ .\sqrt{\{P1(1-P1) + P2\ (1-P2)\}}]2}{(P1-P2)^2}$$

Where P=(P1+P2)/2

• Approximate value of efficacy/cure rate for standard treatment =P1
• Approximate value of efficacy/cure rate for other treatment = P2
• Effect size = (P2-P1)

• Level of significance (usually 5%)

• Zα = Value of standard normal variate corresponding to α level of significance (1.96)

Zβ = The standard normal deviate for desired power (0.842)

With the above assumptions, the sample size for a 95% confidence level & 80% power works out to 62 in each group. With a 10% dropout, we take the sample size to be 70 in each group.

Outcome

PRIMARY OUTCOME:

1) Incidence of EA in both groups.

SECONDARY OUTCOME:

1) Severity of EA in both groups.
2) Emergence time (Time interval from stopping sevoflurane to verbal response)
3) Effect on hemodynamic parameters.

Statistical Analysis:

Data was described in terms of range; mean ±standard deviation (± SD), median, frequencies (number of cases), and relative frequencies (percentages) as appropriate. To determine whether the data was normally distributed, a Kolmogorov-Smirnov test was used. Comparison of quantitative variables between the study groups was done using the Student t-test and Mann-Whitney U test for independent samples for parametric and non-parametric data respectively. For comparing categorical data, the Chi-square ($\chi 2$) test was performed and the Fisher exact test was used when the expected frequency is less than 5. A probability value (p-value) less than 0.05 was considered statistically significant. All statistical calculations were done using (Statistical Package for the Social Science) SPSS 21version (SPSS Inc., Chicago, IL, USA) statistical program for Microsoft Windows.

OBSERVATION AND RESULTS

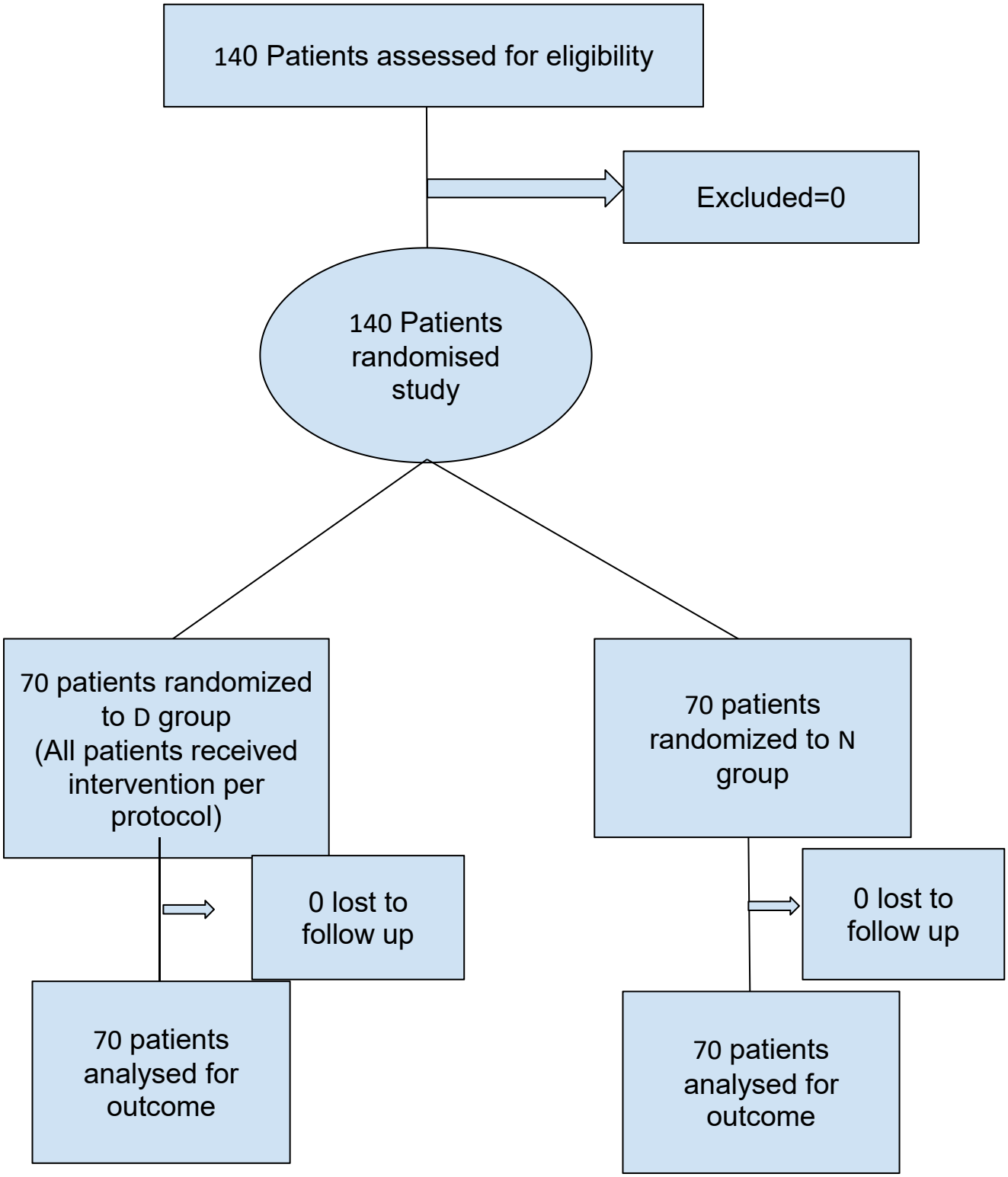
140 Patients assessed for eligibility
Excluded=0
140 Patients randomised study
70 patients randomized to D group (All patients received intervention per protocol)
70 patients randomized to N group
0 lost to follow up
0 lost to follow up
70 patients analysed for outcome
70 patients analysed for outcome

FIGURE 1: Consort flow diagram of study

1. Demographic data:

140 patients aged 18-65 years, of either sex, belonging to ASA Physical status I/II/III, scheduled for elective laparoscopic abdominal surgeries were enrolled in the study. They were randomly allocated into 2 groups of 70 patients each.

Group N: The control group received preoperative normal saline infusion before surgery.

Group D: The study group received preoperative dexmedetomidine infusion before surgery.

1.1 Age & Sex: The mean age in Group N was 44.34±11.97 years and in Group D was 44.26±11.74 years with a p-value of 0.966. There were 23 (32.9%) females and 47 (67.1%) males in group N and 19 (27.1%) females and 51 (72.9%) males in group D. Both the groups were comparable in respect to sex, with a p-value of 0.461.

Table 1a: Distribution of patients according to age & sex

		Group N		Group D		Chi-square value/ Z	p-value
Age (in years)		44.34	11.97	44.26	11.74	-0.043	0.966
Sex (F=female M=male)	F	23	32.9%	19	27.1%	0.544	0.461
	M	47	67.1%	51	72.9%		

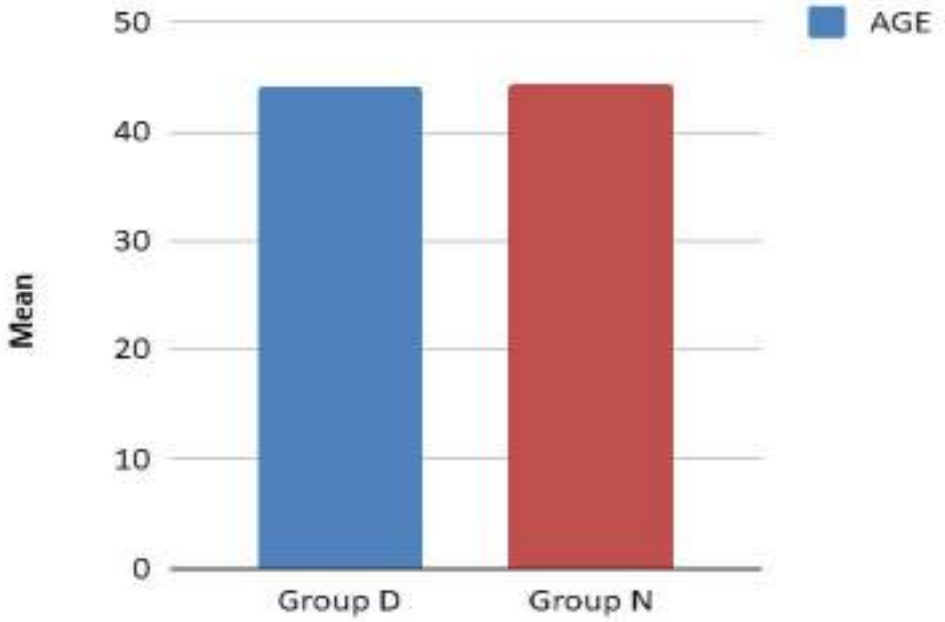

Figure 2: Distribution of patients according to age.

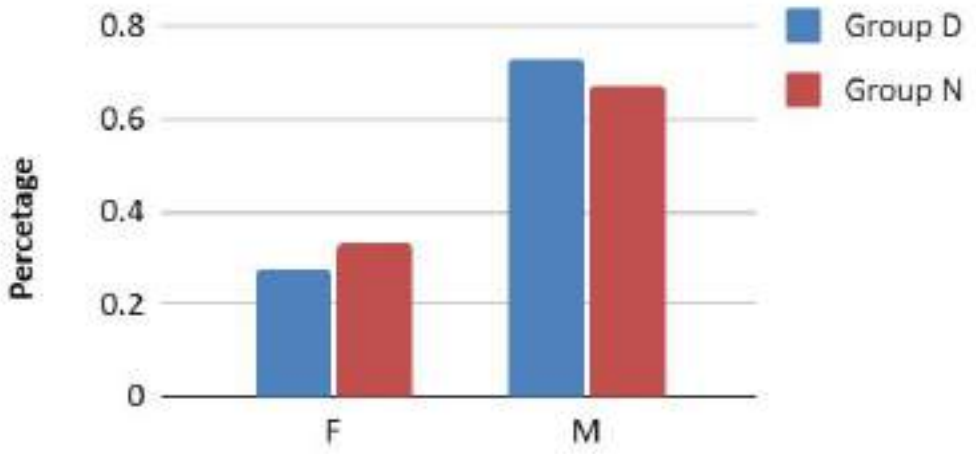

Figure 3: Distribution of patients according to gender (F=Female, M=Male)

1.2 ASA Grade: In group N, 36 (51.4%) patients belonged to ASA Grade I, 25 (35.7%) patients belonged to ASA Grade II, and 9 (12.9%) patients belonged to ASA Grade III. In group D, 38 (54.3%) patients belonged to ASA Grade I, 25 (35.7%) patients belonged to ASA Grade II, and 7 (10.0%) patients belonged to ASA Grade III. (p-value= 0.772).

Table 1b: Distribution of patients according to ASA Grade

		Group N		Group D		Chi-square value/ Z	p-value
ASA	I	36	51.4%	38	54.3%	1.121	0.772
	II	25	35.7%	25	35.7%		
	III	9	12.9%	7	10.0%		

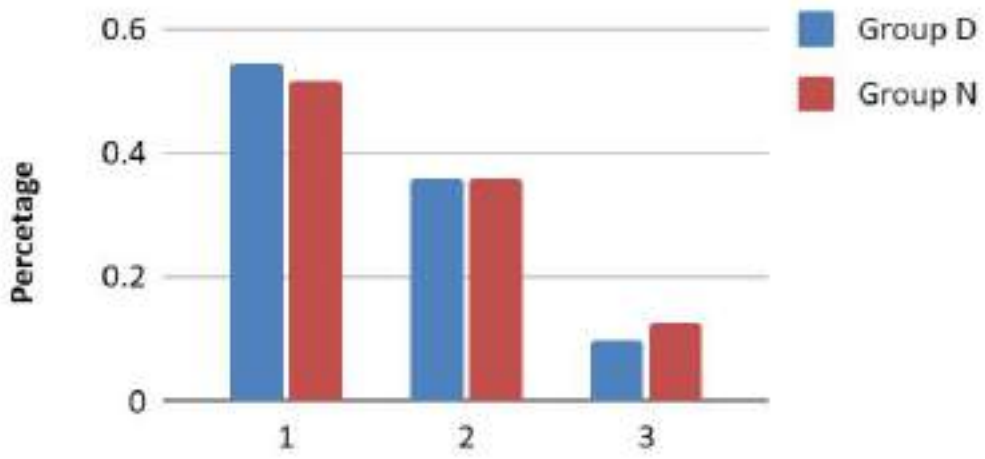

Figure 4: ASA grading of patients in Group N & Group D

1.3 Mean Height & Weight: The mean height is 166.49±6.95 cms and the mean weight is 73.60 ±9.13 kgs in group N and mean height 167.42 ± 6.84 cms and mean weight 73.99 ± 10.41 kgs in group D.

Table 1c: Mean height (cms) and weight (kgs)

	Group D		Group N		t	p-value
	Mean	SD	Mean	SD		
HEIGHT (cms)	167.42	6.84	166.49	6.95	0.803	0.423
WEIGHT (kgs)	73.99	10.41	73.60	9.13	0.233	0.816

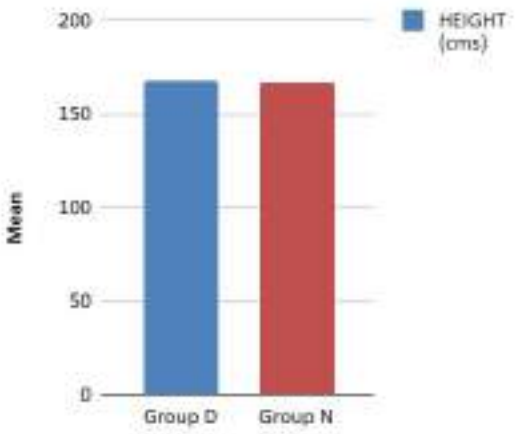

Figure 5: Mean height in group D and group N.

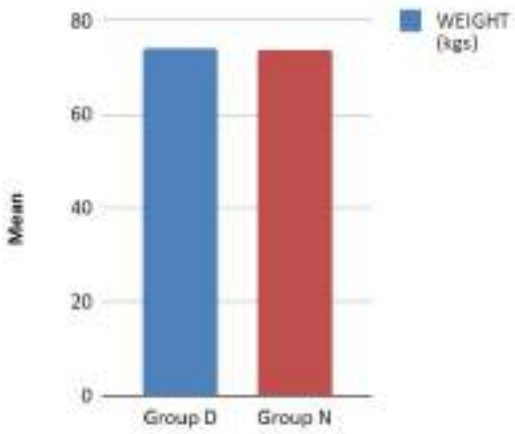

Figure 6: Mean weight in group D and group N.

1.4 Comorbidities: In group N 15(21.4%) patients were hypertensive, 1 (1.4%) patients was obese, 6(8.6%) patient were diabetic, 1(1.4%) had asthma, 1(1.4%) had rheumatoid arthritis, 2(2.9%) had hypothyroidism. In group D 16(22.9%) were hypertensive, `1 patient was obese class I, 6(8.6%) were diabetic. Both groups were comparable with a p-value of 0.49.

Table 1d: Distribution of Comorbidities among group D and group N.

		Group D		Group N		Total	Chi-square value	p-value
		No. of cases	%age	No. of cases	%age			
COMORB.	NO COMORBIDITIES	37	52.9%	32	45.7%	69	13.471	0.49
	HYPOTHYROID	0	0.0%	2	2.9%	2		
	ANEMIA	1	1.4%	0	0.0%	1		
	BRONCHIAL ASTHMA	0	0.0%	1	1.4%	1		
	DIABETIC	6	8.6%	6	8.6%	12		
	HYPERTENSION	16	22.9%	15	21.4%	31		
	HYPERTENSION, CAD, CKD	0	0.0%	1	1.4%	1		
	HYPERTENSION, DIABETIC	6	8.6%	7	10.0%	13		
	HYPERTENSION, DIABETIC, OBESE 2	1	1.4%	0	0.0%	1		
	HYPERTENSION, HYPOTHYROID	0	0.0%	3	4.3%	3		
	OBESITY 1	1	1.4%	1	1.4%	2		
	OBESITY 1, HYPOTHYROID	1	1.4%	0	0.0%	1		
	RHEUMATOID ARTHRITIS	0	0.0%	1	1.4%	1		
	UNDERWEIGHT, ANEMIA	1	1.4%	0	0.0%	1		
Total		70	100.0%	70	100.0%	140		

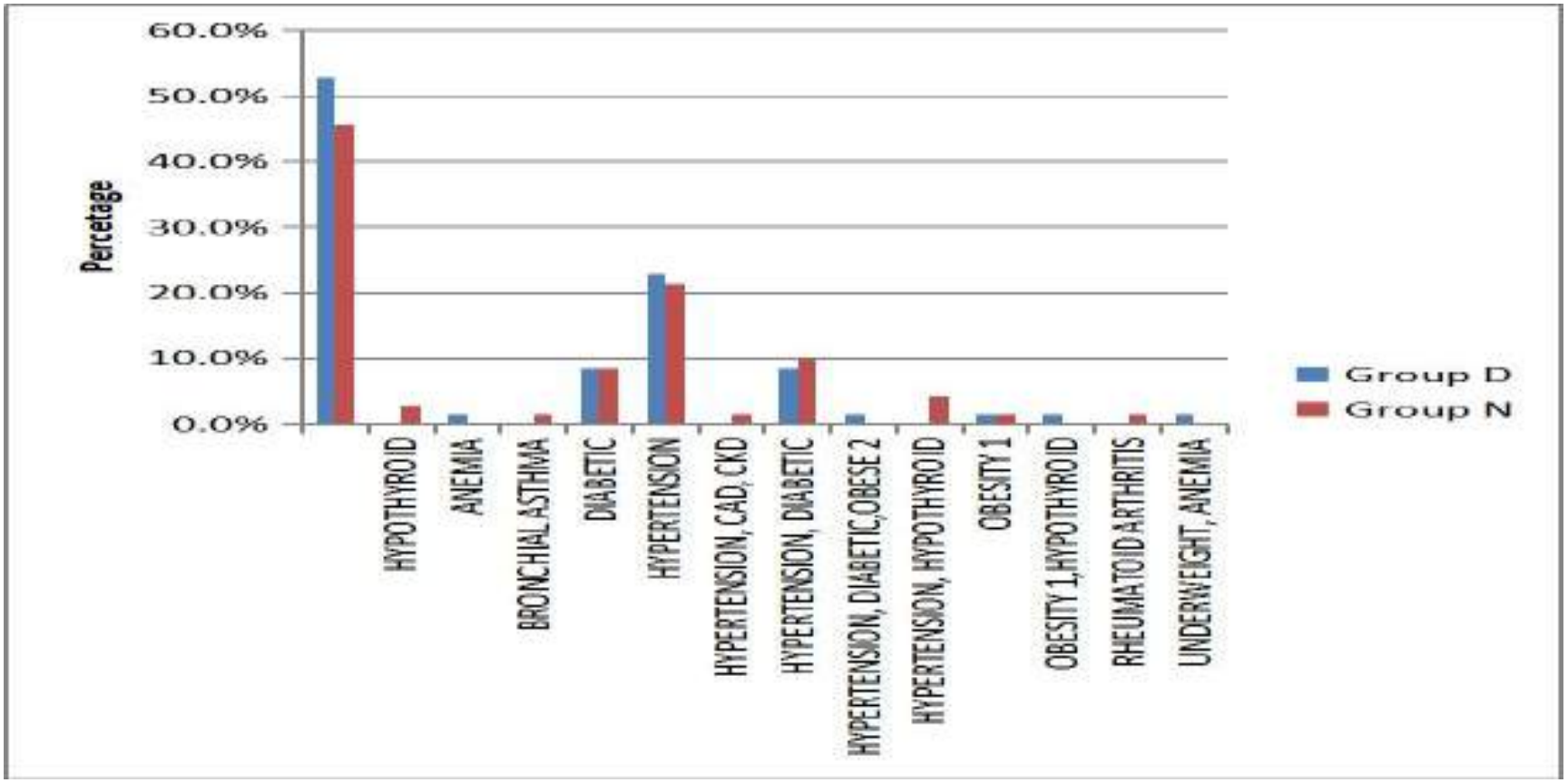

Figure 7: Distribution of comorbidities among groups N and D.

2. PREOPERATIVE FINDINGS IN GROUP N AND GROUP D.

2.1 Preoperative heart rate: The preoperative heart rate was comparable in both groups with p value of 0.223 before starting with infusions. In group N, infusion of normal saline, and in group D infusion of dexmedetomdine was started in the pre-operative area. The heart rate was significantly lower in Group D at 10, 15 and 20 minutes after starting the infusions with p values 0.024, 0.040, and 0.025 respectively.

Table-2a: Comparison of pre-operative heart rate between group N and group D after starting normal saline infusion in group N and dexmedetomidine infusion in group D in the preoperative room.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
PREOP-HR (bpm) 0	87.11	12.87	84.71	13.41	-1.219	0.223
HR 5	85.03	13.34	83.63	13.41	-0.521	0.602
HR 10	78.09	12.39	82.91	12.66	-2.281	**0.024**
HR 15	77.36	13.05	81.96	13.17	-2.076	**0.040**
HR 20	75.11	13.08	80.19	13.46	-2.261	**0.025**

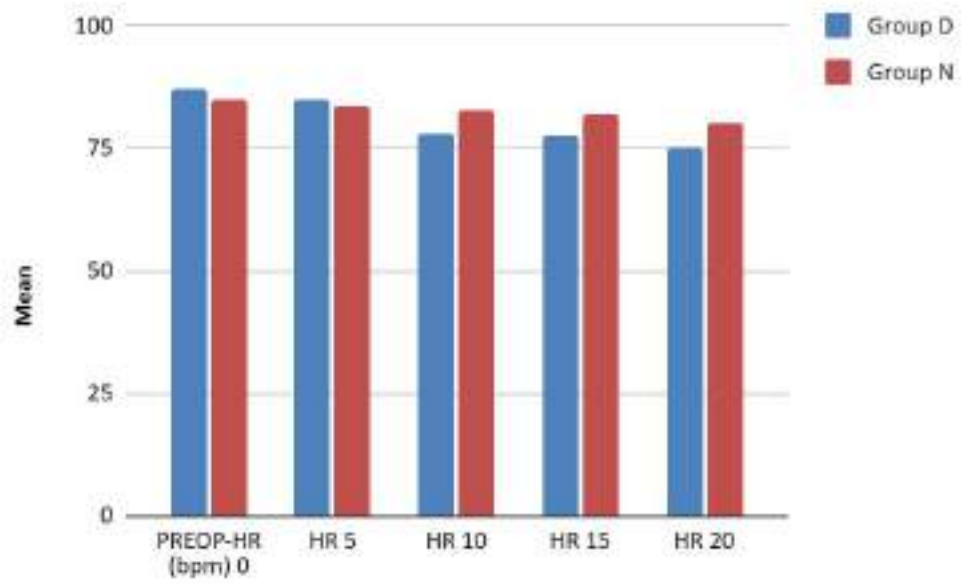

Fig-8: Comparison of pre-operative heart rate vitals between group N and group D after starting with normal saline infusion and dexmedetomidine infusion in respective groups.

2.2 Preoperative systolic blood pressure:

The preoperative systolic blood pressure was comparable in both groups before starting infusions, with a p-value of 0.761. Preoperative systolic blood pressure had a significant difference at 15 and 20 minutes after starting the infusion of dexmedetomidine in group D and normal saline infusion in group N with p values 0.049, and 0.036 respectively among group D and group N.

Table 2 b: Comparison of pre-operative systolic blood pressure in group N and group D after starting with normal saline infusion (group N) and dexmedetomidine infusion (group D) in the preoperative room.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
PREOP-SYS BP (mmHg) 0	128.20	10.66	128.40	10.08	-0.304	0.761
SYS BP 5	124.71	10.12	125.09	9.31	-0.608	0.543
SYS BP 10	123.84	10.81	124.51	10.02	-0.554	0.580
SYS BP 15	118.63	11.84	122.31	11.14	-1.897	**0.049**
SYS BP 20	117.89	10.73	121.71	10.62	-2.121	**0.036**

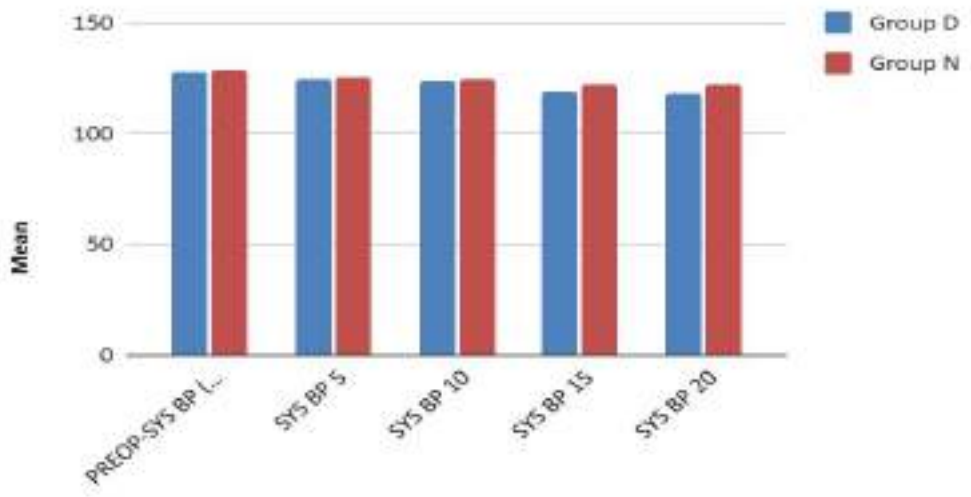

Fig-9: Comparison of pre-operative systolic blood pressure between group N and group D after starting with normal saline infusion (group N) and dexmedetomidine infusion (group D) in the preoperative room.

2.3 Preoperative diastolic blood pressure:

The preoperative diastolic blood pressure was comparable in both groups before starting infusions, with a p-value of 0.581. Preoperative diastolic blood pressure was significant at 15 and 20 minutes after starting the infusion of dexmedetomidine in group D and normal saline infusion in group N with p values 0.013, and 0.004 respectively.

Table-2c: Comparison of pre-operative diastolic blood pressure between group N and group D after starting with normal saline infusion (group N) and dexmedetomidine infusion (group D) in the preoperative room.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
PREOP DIA BP (mmHg) 0	79.49	8.00	80.20	8.22	-0.551	0.581
DIA BP 5	77.20	7.27	78.07	7.48	-0.910	0.363
DIA BP 10	75.74	7.36	76.51	7.87	-0.496	0.620
DIA BP 15	70.83	7.02	73.83	7.12	-2.510	**0.013**
DIA BP 20	70.97	6.93	74.34	6.85	-2.893	**0.004**

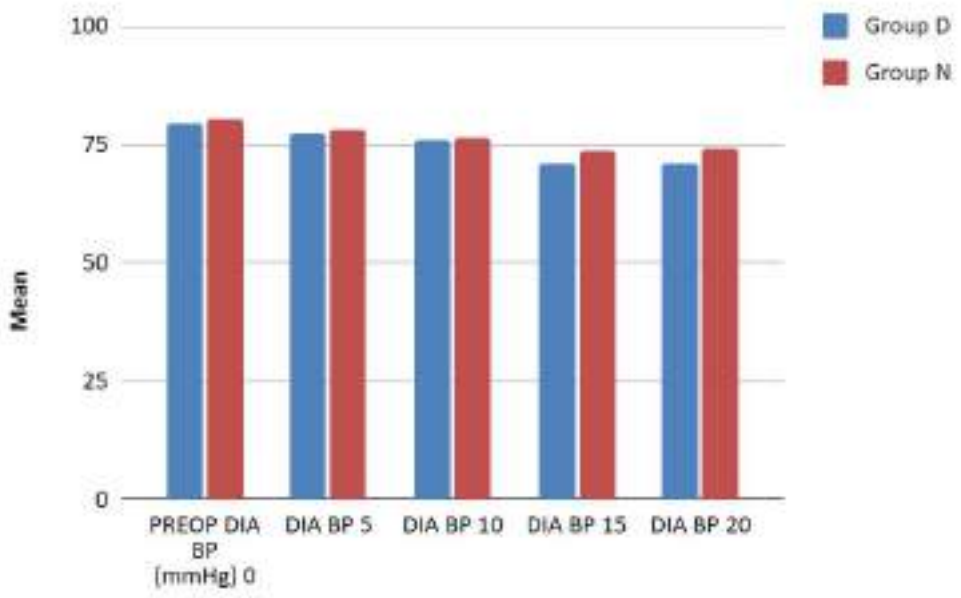

Fig-10: Comparison of pre-operative diastolic blood pressure between group N and group D after starting with normal saline infusion (group N) and dexmedetomidine infusion (group D) in the preoperative room.

2.4 Preoperative oxygen saturation:

The oxygen saturation was comparable preoperatively before and after starting with infusions in group D and group N.

Table 2d: Comparison of pre-operative oxygen saturation between group D and group N.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
PREOP SPO2 0	99.10	1.04	98.97	1.15	-0.555	0.579
SPO2 5	99.13	0.95	99.06	0.98	-0.397	0.691
SPO2 10	99.16	1.21	99.06	1.38	-0.149	0.882
SPO2 15	99.17	1.18	99.07	1.34	-0.198	0.843
SPO2 20	99.11	1.15	98.91	1.33	-0.768	0.442

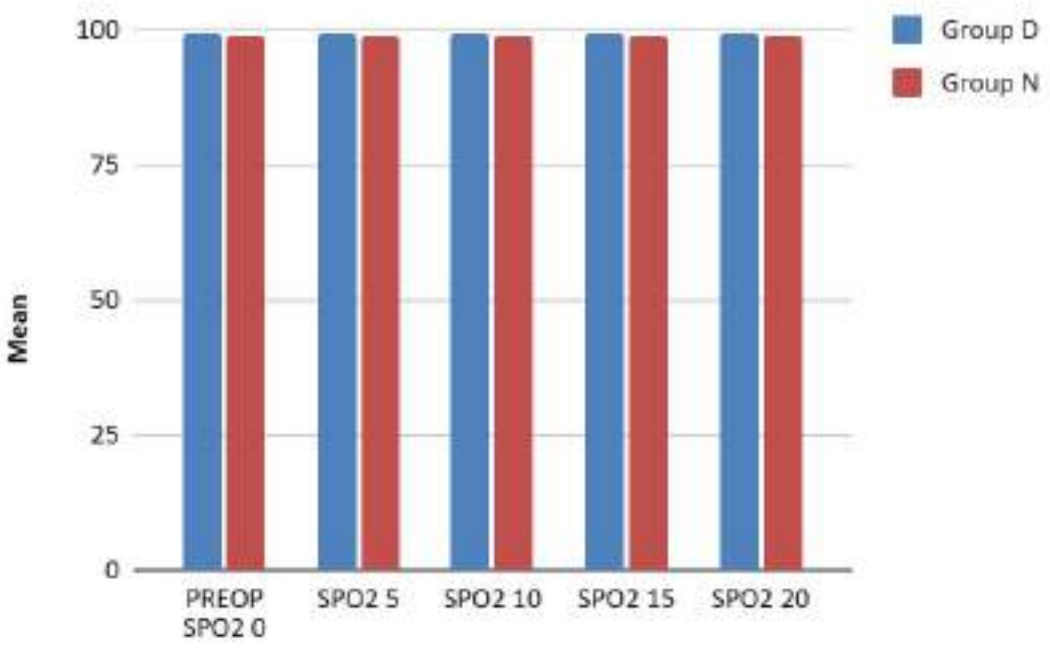

Fig-11: Comparison of pre-operative oxygen saturation between the groups.

3. Intraoperative findings in Group D and Group N:

3.1 Intraoperative heart rate

After completion of infusions in group D and group N, patients are shifted to the operation theatre and induced with general Anaesthesia. The intraoperative heart rate among the groups had significant differences before induction, after induction, and at 5, 10, 15, and 20 minutes of intraoperative time with p values of 0.004, 0.001, 0.005, 0.001, 0.00 respectively.

Table 3a: Comparison of intraoperative heart rate between group D and group N.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
INTRAOP HR BEFORE INDUCTION	72.54	11.88	77.13	12.66	-2.844	**0.004**
INTRAOP HR AFTER INDUCTION	77.74	13.42	83.37	12.98	-3.330	**0.001**
HR 5	79.91	12.45	85.89	12.05	-2.884	**0.005**
HR 10	77.11	11.63	83.40	11.68	-3.191	**0.002**
HR 15	78.20	10.19	83.80	9.94	-3.291	**0.001**
HR 20	77.49	9.05	83.19	9.35	-3.665	**0.000**
HR 25	76.64	8.95	78.51	8.73	-1.493	0.135
HR 30	75.69	7.98	77.51	8.05	-1.347	0.178
HR 35	73.97	7.89	75.80	8.48	-1.109	0.267
HR 40	74.86	7.56	76.37	7.86	-1.369	0.171
HR 45	75.75	9.42	76.43	8.66	-0.201	0.841
HR 50	74.54	6.96	75.56	6.72	-1.051	0.293
HR 55	73.27	7.95	74.30	8.11	-0.335	0.738
HR 60	72.83	4.75	74.16	6.26	-0.947	0.344
HR 65	76.64	6.84	77.50	7.73	-0.961	0.336

HR 70	82.14	9.20	80.71	8.16	-0.287	0.774
HR 75	91.57	8.95	86.43	8.95	-1.485	0.138
HR 80	88.29	7.96	83.71	7.96	-1.485	0.138
HR 85	93.29	14.92	84.71	14.92	-1.485	0.138
HR 90	97.14	17.90	86.86	17.90	-1.485	0.138
HR 95	114.89	3.33	116.00	0.00	-0.745	0.456
HR 100	102.00	.000[a]	102.00	.000[a]	0.000	1.000
HR 105	98.00	.000[a]	98.00	.000[a]	0.000	1.000
HR 110	88.00	.000[a]	88.00	.000[a]	0.000	1.000

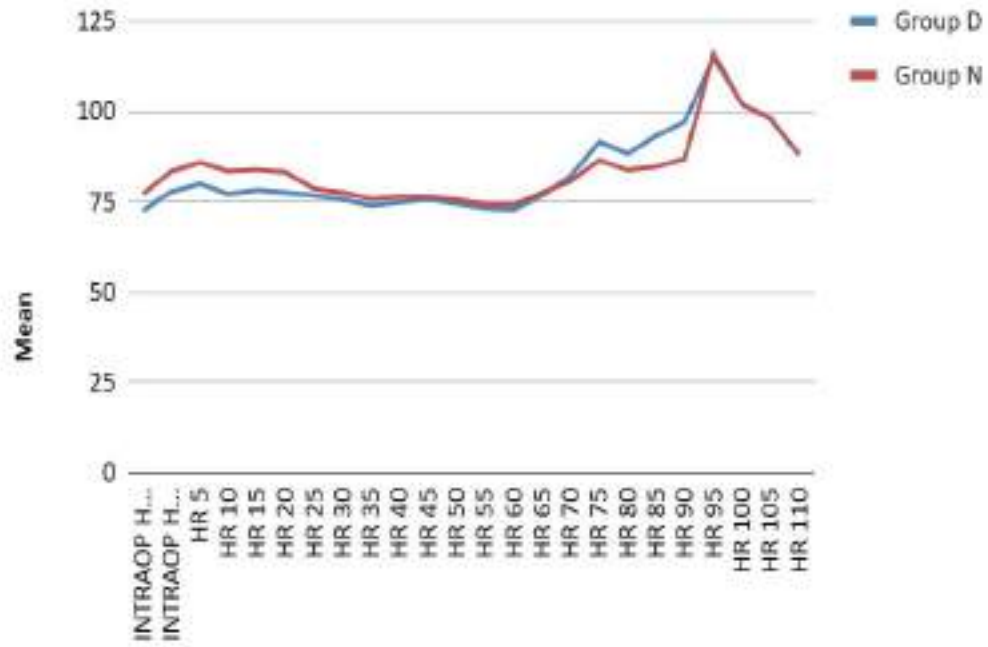

Fig.12: Trend of intraoperative heart rate between group D and group N.

3.2 Intraoperative systolic blood pressure:

Systolic blood pressure had a significant difference among group D and group N before induction, after induction, and at 5, 10, 15, 20, and 25 minutes of intraoperative time with p values of 0.039, 0.004, 0.003, 0.001, 0.018, 0.042, 0.024 respectively; depicting better hemodynamic response in group D.

Table 3 b: Comparison of intraoperative systolic blood pressure between group D and group N.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
INTRAOP SYS BP BEFORE INDUCTION	117.77	8.54	121.26	10.55	-2.064	**0.039**
INTRAOP SYS BP AFTER INDUCTION	124.00	10.63	129.46	12.32	-2.887	**0.004**
SYS 5	120.14	10.86	125.20	11.89	-3.009	**0.003**
SYS 10	120.46	10.36	125.94	12.10	-3.295	**0.001**
SYS 15	118.11	11.89	123.20	13.30	-2.385	**0.018**
SYS 20	117.86	12.65	122.29	13.25	-2.034	**0.042**
SYS 25	116.94	11.13	121.77	12.41	-2.259	**0.024**
SYS 30	117.63	8.43	119.74	10.76	-1.262	0.207
SYS 35	113.66	8.11	115.40	10.49	-1.073	0.283
SYS 40	114.11	7.37	116.83	9.35	-1.490	0.136
SYS 45	115.38	6.17	117.28	8.00	-0.996	0.319
SYS 50	118.63	6.60	120.00	8.23	-0.910	0.365
SYS 55	120.21	7.31	122.28	7.78	-1.261	0.207
SYS 60	120.34	7.73	121.72	7.69	-0.685	0.494
SYS 65	120.43	7.51	121.21	7.15	-0.439	0.661

SYS 70	118.50	6.72	118.93	8.39	-0.160	0.873
SYS 75	118.57	1.99	117.43	1.99	-1.485	0.138
SYS 80	121.57	4.97	124.43	4.97	-1.485	0.138
SYS 85	122.71	0.99	123.29	0.99	-1.485	0.138
SYS 90	132.14	10.94	125.86	10.94	-1.485	0.138
SYS 95	134.00	.000[a]	134.00	.000[a]	0.000	1.000
SYS 100	138.00	.000[a]	138.00	.000[a]	0.000	1.000
SYS 105	126.00	.000[a]	126.00	.000[a]	0.000	1.000
SYS 110	122.00	.000[a]	122.00	.000[a]	0.000	1.000

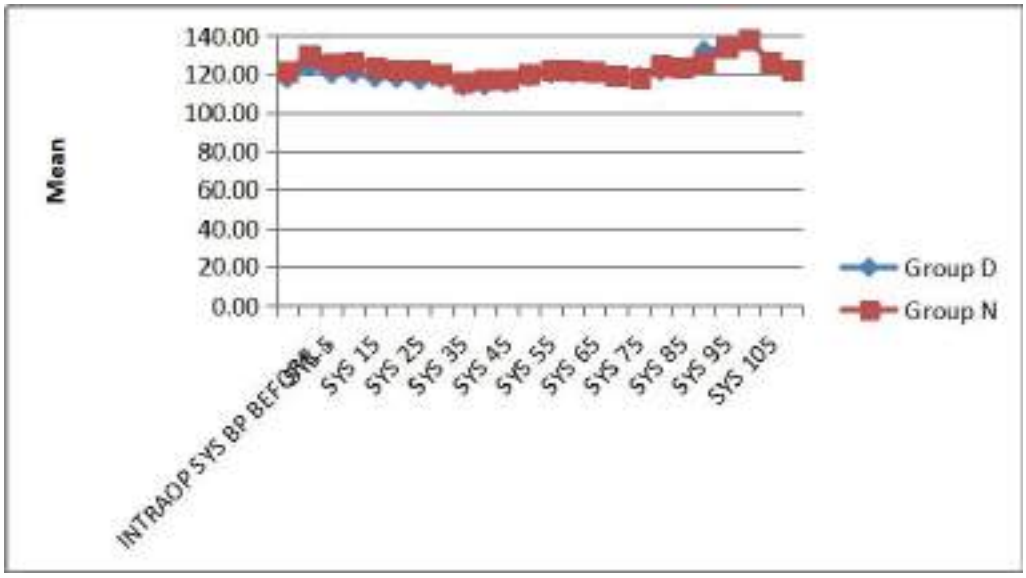

Fig.13: Trend of intraoperative systolic blood pressure between group D and group N.

3.3 Intraoperative diastolic blood pressure:

Intraoperative diastolic blood pressure was significant before induction, after induction, and at 5, 10, 15, and 20 minutes of intraoperative time with p values of 0.005, 0.004, 0.001, 0.001, 0.004, and 0.001 respectively.

Table-3c: Comparison of intraoperative diastolic blood pressure between group D and group N.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
INTRAOP DIA BP BEFORE INDUCTION	72.51	9.46	76.63	9.07	-2.777	**0.005**
INTRAOP DIA BP AFTER INDUCTION	75.63	11.14	80.46	10.83	-2.863	**0.004**
DIA 5	77.09	10.35	82.74	10.19	-3.259	**0.001**
DIA 10	73.66	8.69	78.60	8.86	-3.333	**0.001**
DIA 15	72.09	9.71	77.03	10.23	-2.931	**0.004**
DIA 20	69.40	8.73	74.46	9.48	-3.282	**0.001**
DIA 25	70.66	8.06	72.66	8.51	-1.707	0.088
DIA 30	70.66	7.41	72.34	7.57	-1.324	0.186
DIA 35	70.23	9.14	71.60	10.31	-0.647	0.518
DIA 40	70.91	8.48	71.80	8.54	-0.773	0.440
DIA 45	73.05	7.53	74.22	7.14	-0.924	0.355
DIA 50	71.63	8.48	73.04	7.92	-0.592	0.554
DIA 55	72.98	7.48	74.79	7.67	-1.347	0.178
DIA 60	74.98	8.66	77.26	9.02	-1.210	0.226
DIA 65	71.64	6.18	72.93	5.32	-0.405	0.685
DIA 70	73.64	3.31	74.21	3.67	-0.683	0.494

DIA 75	75.71	5.97	72.29	5.97	-1.485	0.138
DIA 80	79.00	6.96	75.00	6.96	-1.485	0.138
DIA 85	78.86	9.94	73.14	9.94	-1.485	0.138
DIA 90	83.57	8.95	78.43	8.95	-1.485	0.138
DIA 95	94.00	.000[a]	94.00	.000[a]	0.000	1.000
DIA 100	92.00	.000[a]	92.00	.000[a]	0.000	1.000
DIA 105	88.00	.000[a]	88.00	.000[a]	0.000	1.000
DIA 110	84.00	.000[a]	84.00	.000[a]	0.000	1.000

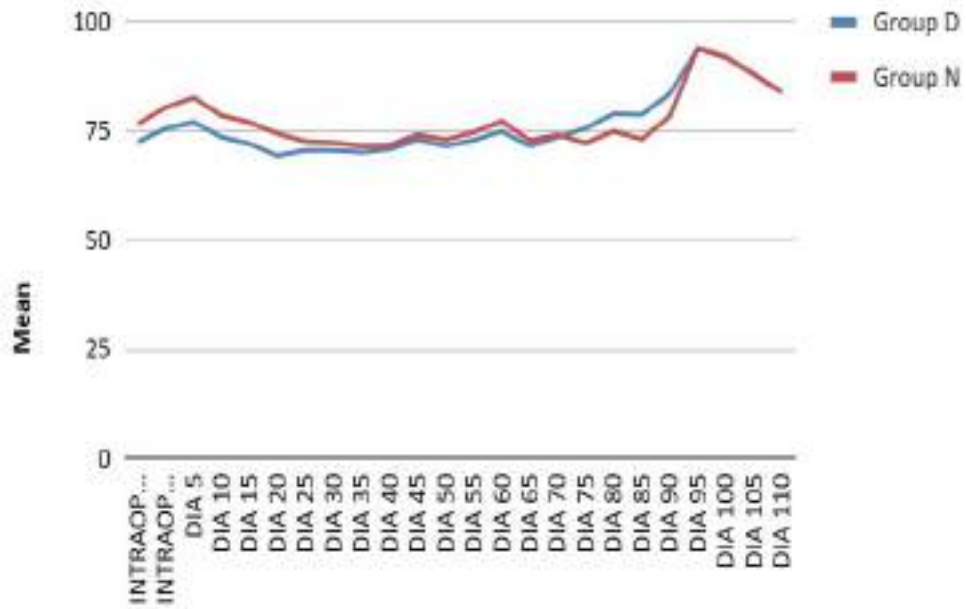

Fig.14: Comparison of intraoperative diastolic blood pressure between group N and group D.

3.4 Intraoperative oxygen saturation

Intraoperative oxygen saturation had no significant difference between the two groups.

Table-3d: Comparison of intraoperative oxygen saturation between group D and group N.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
INTRAOP SPO2 BEFORE INDUCTION	99.17	1.22	98.79	1.45	-1.578	0.114
INTRAOP SPO2 AFTER INDUCTION	99.29	0.93	99.11	0.99	-1.052	0.293
SPO2 5	99.51	0.81	99.30	0.95	-1.397	0.163
SPO2 10	99.49	0.83	99.31	0.94	-1.103	0.270
SPO2 15	99.51	0.79	99.40	0.89	-0.678	0.497
SPO2 20	99.71	0.59	99.56	0.79	-0.986	0.324
SPO2 25	99.83	0.45	99.83	0.51	-0.231	0.817
SPO2 30	99.89	0.32	99.79	0.59	-0.617	0.537
SPO2 35	99.90	0.35	99.79	0.63	-0.882	0.378
SPO2 40	99.81	0.57	99.79	0.66	-0.052	0.958
SPO2 45	99.84	0.54	99.73	0.70	-1.074	0.283
SPO2 50	99.79	0.62	99.72	0.67	-0.749	0.454
SPO2 55	99.79	0.62	99.74	0.66	-0.507	0.612
SPO2 60	99.76	0.66	99.67	0.78	-0.531	0.596
SPO2 65	99.64	0.78	99.32	0.94	-1.437	0.151
SPO2 70	99.64	0.78	99.32	0.94	-1.437	0.151
SPO2 75	99.29	0.99	98.71	0.99	-1.485	0.138
SPO2 80	99.29	0.99	98.71	0.99	-1.485	0.138

SPO2 85	99.29	0.99	98.71	0.99	-1.485	0.138
SPO2 90	99.29	0.99	98.71	0.99	-1.485	0.138
SPO2 95	100.00	.000[a]	100.00	.000[a]	0.000	1.000
SPO2 100	100.00	.000[a]	100.00	.000[a]	0.000	1.000
SPO2 105	100.00	.000[a]	100.00	.000[a]	0.000	1.000
SPO2 110	100.00	.000[a]	100.00	.000[a]	0.000	1.000

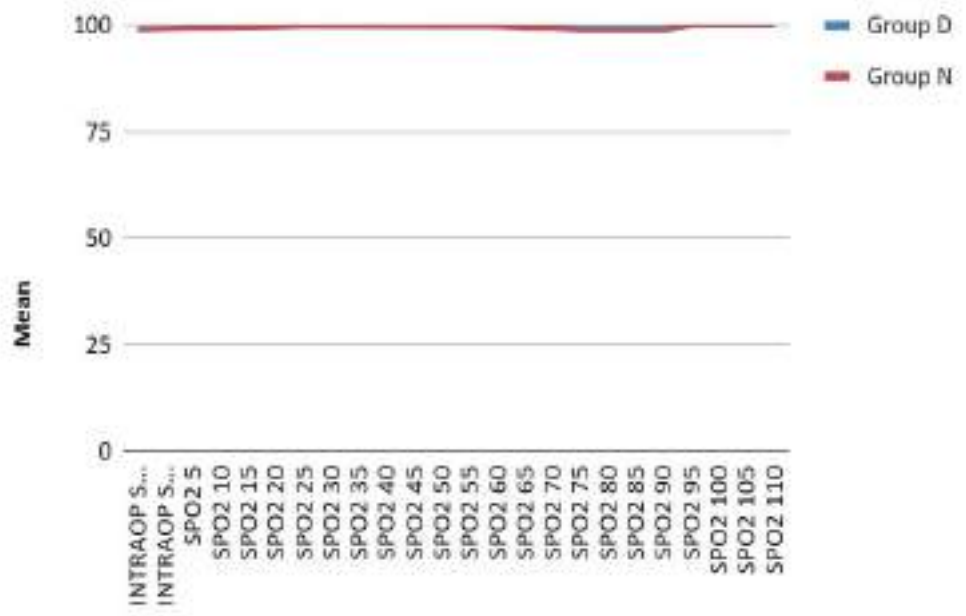

Fig.15: Trend of intraoperative oxygen saturation between group N and group D.

3.5 Intraoperative end-tidal carbon dioxide

Intraoperative end-tidal carbon dioxide had no significant difference between the two groups D and group N.

Table 3e: Comparison of intraoperative end-tidal carbon dioxide of between the group D and group N.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
INTRAOP ETCO2 (mmHg) BEFORE INDUCTION	14.06	2.07	13.94	1.96	-0.492	0.623
INTRAOP ETCO2 AFTER INDUCTION	32.86	1.58	33.23	1.61	-1.502	0.133
ETCO2 5	33.54	1.73	33.81	1.80	-0.891	0.373
ETCO2 10	33.64	1.96	33.91	2.25	-0.641	0.521
ETCO2 15	33.07	1.54	33.20	1.72	-0.494	0.621
ETCO2 20	32.86	1.34	33.00	1.36	-0.740	0.459
ETCO2 25	32.84	1.36	32.70	1.36	-0.674	0.501
ETCO2 30	32.03	0.64	32.17	0.76	-1.130	0.259
ETCO2 35	32.14	1.13	32.01	1.17	-0.514	0.607
ETCO2 40	32.51	1.41	32.63	1.33	-0.450	0.653
ETCO2 45	32.48	0.86	32.39	0.83	-0.626	0.531
ETCO2 50	32.58	0.74	32.50	0.68	-0.504	0.614
ETCO2 55	32.94	1.21	33.04	1.19	-0.398	0.691
ETCO2 60	32.93	1.23	32.72	1.20	-0.726	0.468
ETCO2 65	33.29	1.90	32.71	1.56	-1.223	0.221
ETCO2 70	33.25	1.94	32.68	1.59	-1.124	0.261
ETCO2 75	34.57	1.99	33.43	1.99	-1.485	0.138

ETCO2 80	32.00	.000[a]	32.00	.000[a]	0.000	1.000
ETCO2 85	34.00	.000[a]	34.00	.000[a]	0.000	1.000
ETCO2 90	33.29	0.99	32.71	0.99	-1.485	0.138
ETCO2 95	34.00	.000[a]	34.00	.000[a]	0.000	1.000
ETCO2 100	34.00	.000[a]	34.00	.000[a]	0.000	1.000
ETCO2 105	34.00	.000[a]	34.00	.000[a]	0.000	1.000
ETCO2 110	34.00	.000[a]	34.00	.000[a]	0.000	1.000
ETCO2 115	.	.	.	.		
ETCO2 120	.	.	.	.		

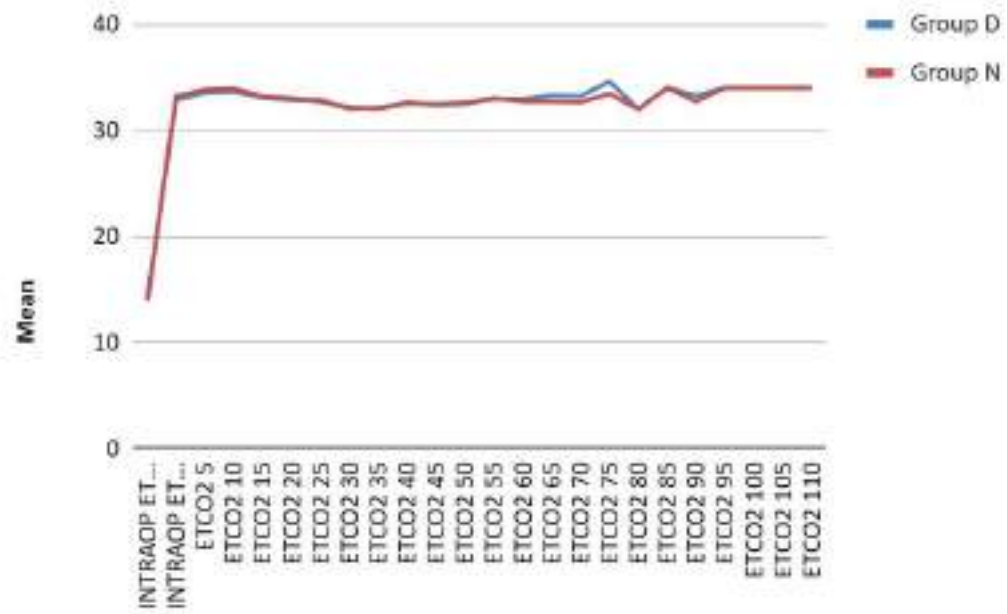

Fig.16: Trend of intraoperative etco2 between group D and group N.

4. Emergence agitation:

4a. Incidence of emergence agitation

Incidence of emergence agitation was observed in all patients during and after extubation using the Riker agitation and sedation scale (RASS). It was found that the incidence of emergence agitation was higher i.e. 48.6% in Group N as compared to Group D i.e. 2.9%. The difference in both groups was found to be statistically significant with a p-value of 0.001.

Table-4a: Comparison of incidence Emergence agitation:

		Group D		Group N		Total	Chi-square value	p-value
		No. of cases	%age	No. of cases	%age			
EMERGENCE AGITATION	No	68	97.1%	36	51.4%	104	38.291	0.001
	Yes	2	2.9%	34	48.6%	36		
Total		70	100.0%	70	100.0%	140		

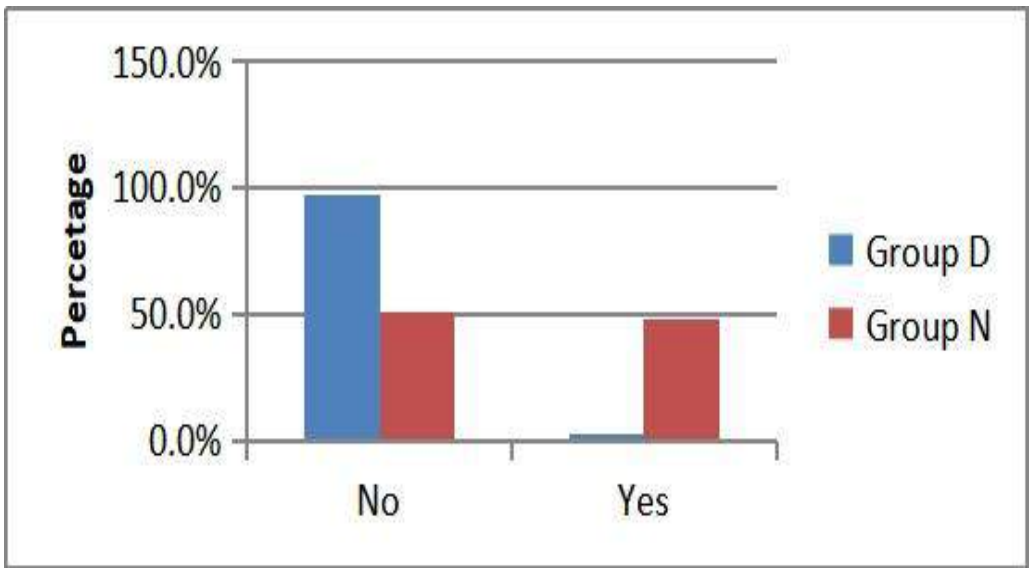

Figure 17: Incidence of Emergence agitation (N=No, Y=Yes)

4b. Severity of Emergence agitation: The severity of Emergence agitation was measured using the Riker agitation and sedation scale (RASS). RASS score was measured after taking the patient on the OT table after the infusions were stopped in group N and group D. Pre-operative RASS score was found to be significantly lower in group D as compared to group N(p-value=0.001).

RASS was measured immediately following extubation i.e. at 0 minutes and 5 minutes, 10 minutes and 15 minutes. RASS score was found to be significantly lower in group D as compared to group N (p-value=0.001) at 0 min and 5 min after extubation. There was no significant difference in RASS scores at 10, and 15 of extubation. The line graph displays the trend of the severity of Emergence agitation over time.

No significant difference in RASS value was observed between the two groups when measured in PACU at 60 minutes.

Table 4 b: Comparison of RAAS scoring between the groups.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
RAAS ON OT (PREOP RAAS)	3.96	0.20	4.17	0.38	-3.940	**0.001**
RAAS AFTER EXTUBATION 0 MIN	3.03	0.51	4.54	0.63	-10.024	**0.001**
RAAS AFTER EXTUBATION 5MIN	3.11	0.40	4.10	0.30	-10.030	**0.001**
RAAS AFTER EXTUBATION 10 MIN	3.88	0.33	4.00	0.00	-0.525	0.600
RAAS AFTER EXTUBATION 15 MIN	4.00	0.00	-	-	-	-
RAAS IN PACU AT 60 MIN	4.00	0.00	4.03	0.17	-1.425	0.157

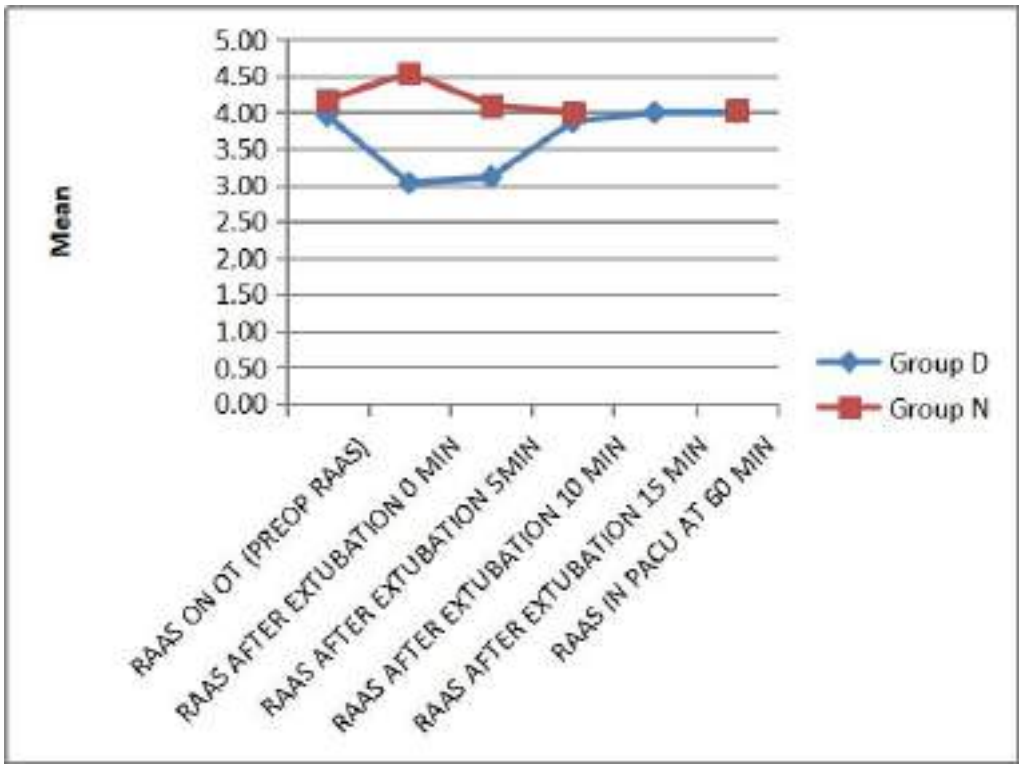

Figure 18: Trend RAAS scoring between the groups over time.

4c. Emergence agitation and Age

To compare the incidence of emergence agitation concerning age, patients were divided into 2 groups, those aged below 40 years and those aged 40 years or older. In the control group patients i.e. 11 patients in the younger group had emergence agitation and 23 patients in the older group had emergence agitation with a statistically significant p-value of 0.001. In the study group, 1 patient was in the younger group and 1 patient was in the older group.

Table-4c: Comparison of emergence agitation and age between group D and group N.

GP			age group		Total	Chi-square value	p-value
			< 40	> 40			
D	EMERGENCE AGITATION	No	27	41	68	0.086	0.77
		Yes	1	1	2		
	Total		28	42	70		
N	EMERGENCE AGITATION	No	13	23	36	0.11	0.804
		Yes	11	23	34		
	Total		24	46	70		

4d. Emergence agitation and gender

To compare the incidence of emergence agitation concerning gender, males have a significantly higher incidence of emergence as compared to females. (p value=0.001).

Table-4d: Comparison of emergence agitation and gender between group D and group N.

GENDER			GP		Total	Chi-square value	p-value
			D	N			
F	EMERGENCE AGITATION	No	19	13	32	10.842	0.001
		Yes	0	10	10		
	Total		19	23	42		
M	EMERGENCE AGITATION	No	49	23	72	27.887	0.001
		Yes	2	24	26		
	Total		51	47	98		

4e. Extubation time and emergence time:

The time to extubation (T1) is from the cessation of sevoflurane (T0) to extubation and was significantly longer in Group D (8.13 ± 1.13 minutes) compared to Group N (3.97 ± 0.72 minutes) with p-value = 0.001.

The emergence time (T2), defined as the interval from T0 to the patient's verbal response, was also significantly longer in Group D (10.53 ± 1.36 minutes) compared to Group N (5.60 ± 0.87 minutes) with p-value = 0.001.

Table-4e: Comparison of extubation time and emergence time between group D and group N.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
T1 (TIME FROM T0 TO EXTUBATION) IN MINUTES	8.13	1.13	3.97	0.72	-10.261	**0.001**
T2 (TIME FROM T0 TO VERBAL RESPONSE) IN MINUTES	10.53	1.36	5.60	0.87	-10.218	**0.001**

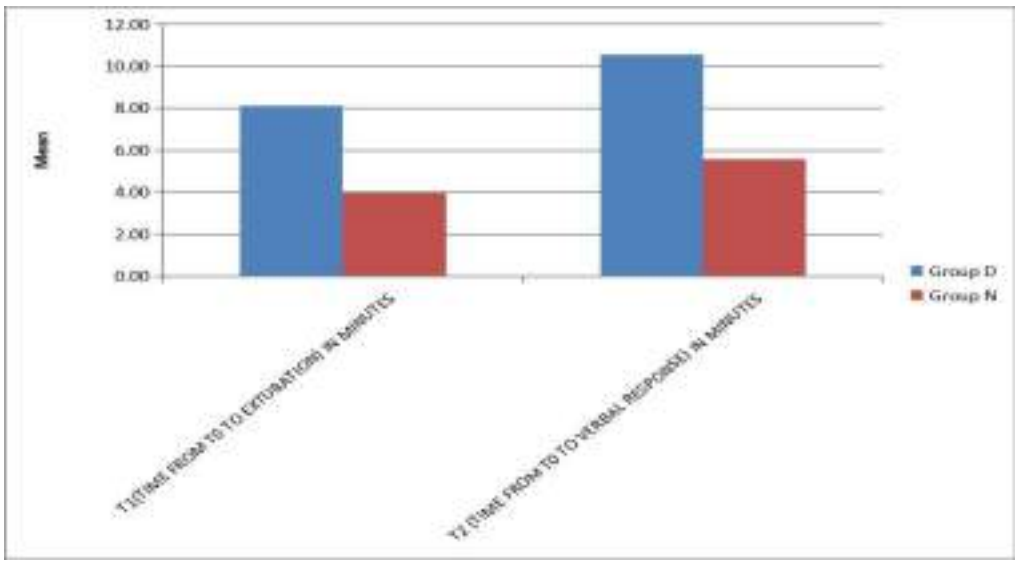

Figure 19: Extubation time and emergence time between group D and group N.

5. Duration of Anaesthesia and surgery:

Duration of surgery was 57.61±18.76 minutes in group N and 53.86±20.68 minutes in group D. There was no statistically significant difference between the groups; p-value 0.117.

Duration of Anaesthesia was 64.14±19.43 minutes in group N and 64.86±21.35 minutes in group D. There was no statistically significant difference between the groups; p-value 0.978.

Table 5: Duration of Anaesthesia and surgery:

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
SURGICAL TIME (IN MINUTES)	53.86	20.68	57.61	18.76	-1.566	0.117
ANAESTHESIA TIME (IN MINUTES)	64.86	21.35	64.14	19.43	-0.027	0.978

6. Hemodynamic parameters during emergence and before shifting to PACU:

Parameters including heart rate, Non-invasive blood pressure, and SpO_2 were studied during extubation. All the vital parameters were comparable between both groups.

Table 6a: Trends in mean heart rate

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
HR AFTER EXTUBATION TILL PACU 0	90.07	15.93	93.60	16.99	-1.395	0.163
HR 5	88.91	15.85	91.26	16.89	-0.733	0.463
HR 10	86.37	14.24	88.27	15.76	-0.723	0.470
HR 15	81.54	11.51	83.24	12.60	-0.776	0.438
HR 20	82.10	8.63	83.57	9.22	-1.296	0.195

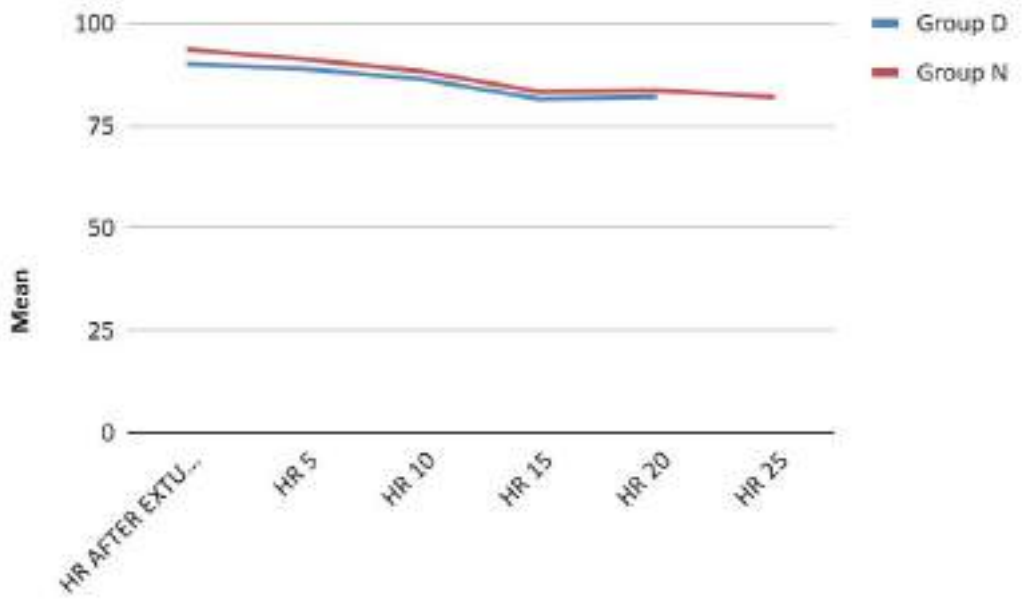

Figure 20: Trends in mean Heart Rate (HR) during emergence and before shifting to PACU.

Table 6b: Trends in mean Systolic Blood pressure(SBP).

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
SYS BP AFTER EXTUBATION TILL PACU 0	131.83	12.07	134.26	11.77	-1.038	0.299
SYS BP 5	127.57	13.00	129.80	12.23	-0.892	0.373
SYS BP 10	123.74	10.69	125.11	10.21	-0.999	0.318
SYS BP 15	120.89	8.97	123.23	9.49	-1.617	0.106
SYS BP 20	119.46	6.93	121.63	7.59	-1.639	0.101
SYS BP 25	.	.		.		
SYS BP 30	.	.	.	.		

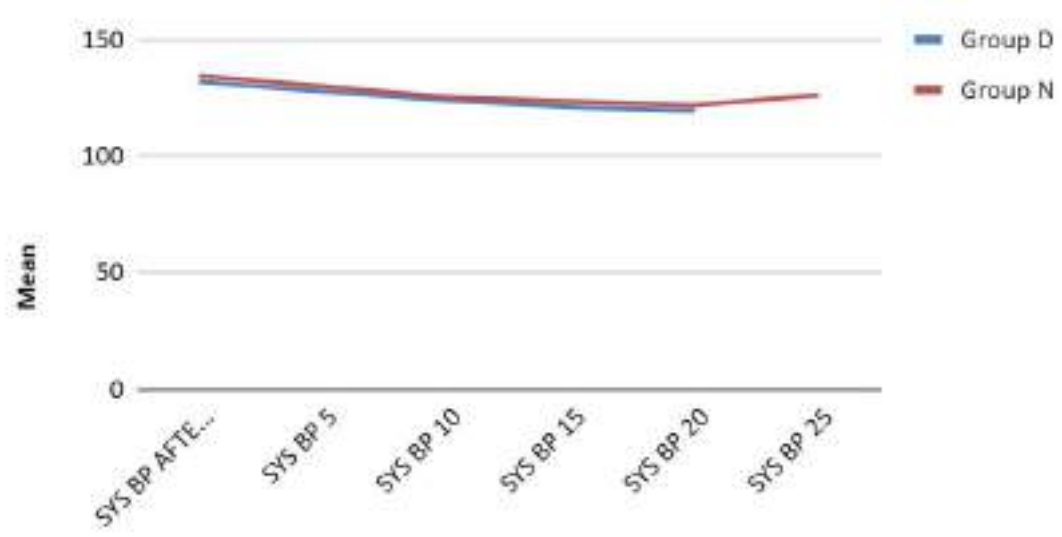

Figure 21: Trends in Systolic Blood Pressure (SBP) during emergence and before shifting to PACU.

Table 6c: Trends in mean Diastolic Blood Pressure(DBP)

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
DIA BP AFTER EXTUBATION TILL PACU 0	82.09	10.29	84.69	10.08	-1.630	0.103
DIA BP 5	80.03	10.21	82.63	9.77	-1.649	0.099
DIA BP 10	77.46	8.71	79.49	8.13	-1.140	0.254
DIA BP 15	74.49	7.49	76.20	7.44	-0.961	0.337
DIA BP 20	73.89	8.17	74.63	8.37	-0.419	0.675
DIA BP 25	.	.		.		
DIA BP 30	.	.	.	.		

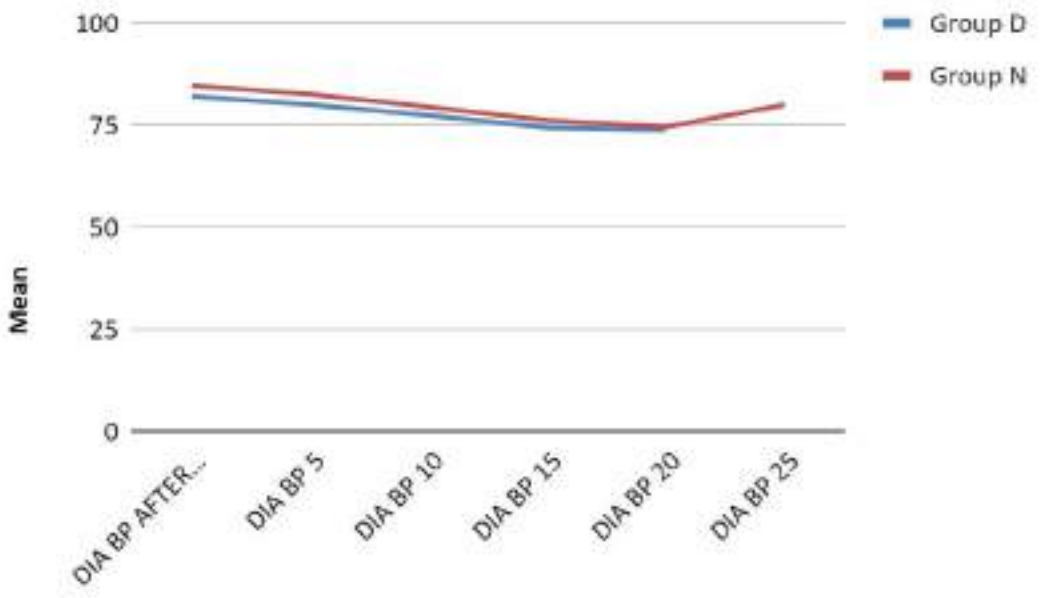

Figure 22: Trends in Diastolic Blood Pressure (DBP) during emergence and before shifting to PACU.

Table 6d: Trends in mean SpO2:

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
SPO2 AFTER EXTUBATION TILL PACU 0	98.83	0.99	98.71	1.02	-0.615	0.539
SPO2 5	99.13	0.92	99.07	0.92	-0.373	0.709
SPO2 10	99.44	0.83	99.41	0.88	-0.097	0.923
SPO2 15	99.41	0.88	99.40	0.87	-0.133	0.894
SPO2 20	99.57	0.83	99.44	0.91	-0.928	0.354

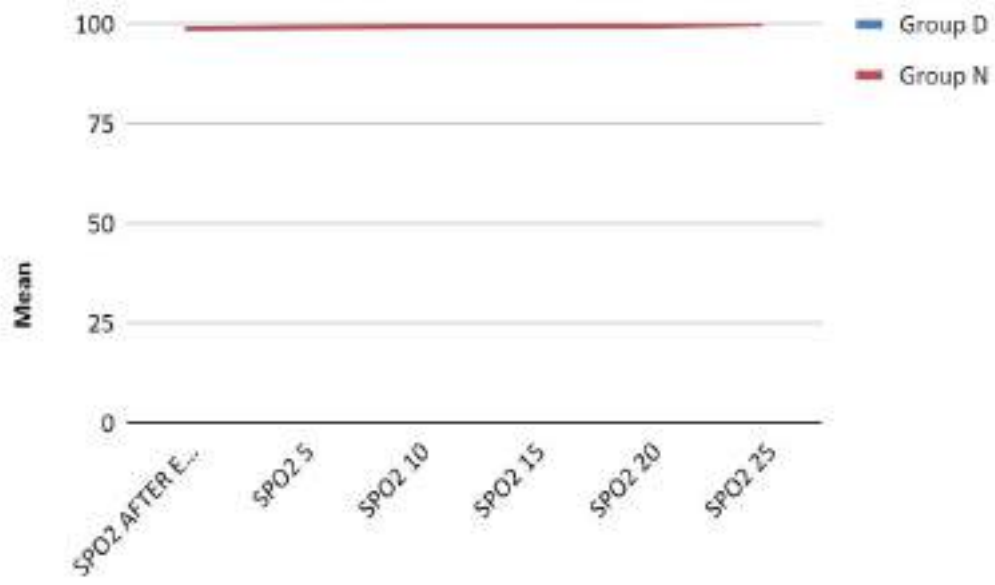

Figure 23: Trends in mean SpO2 during emergence and before shifting to PACU.

7. Hemodynamic parameters in PACU:

Parameters including heart rate, Non-invasive blood pressure, and SpO_2 were studied in PACU. All the vital parameters were comparable between both groups.

Table 7a: Trends in mean heart rate

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
PACU HR 0	82.21	12.46	83.90	13.29	-0.716	0.474
HR 5	81.03	10.74	82.27	11.18	-0.717	0.473
HR 10	79.23	11.98	81.06	12.66	-1.037	0.300
HR 15	79.87	13.23	82.36	13.96	-1.192	0.233
HR 20	78.37	9.93	80.64	10.81	-1.340	0.180
HR 25	77.10	10.64	79.59	11.60	-1.341	0.180
HR 30	75.54	10.35	77.81	11.25	-1.144	0.253
HR 35	75.69	10.36	77.31	10.57	-1.041	0.298
HR 40	78.06	9.22	78.79	8.99	-0.204	0.839
HR 45	76.46	9.14	76.89	8.85	-0.451	0.652
HR 50	76.14	7.86	76.84	8.06	-0.560	0.575
HR 55	75.76	9.24	76.86	9.83	-0.755	0.450
HR 60	75.66	8.75	76.79	9.49	-0.612	0.541

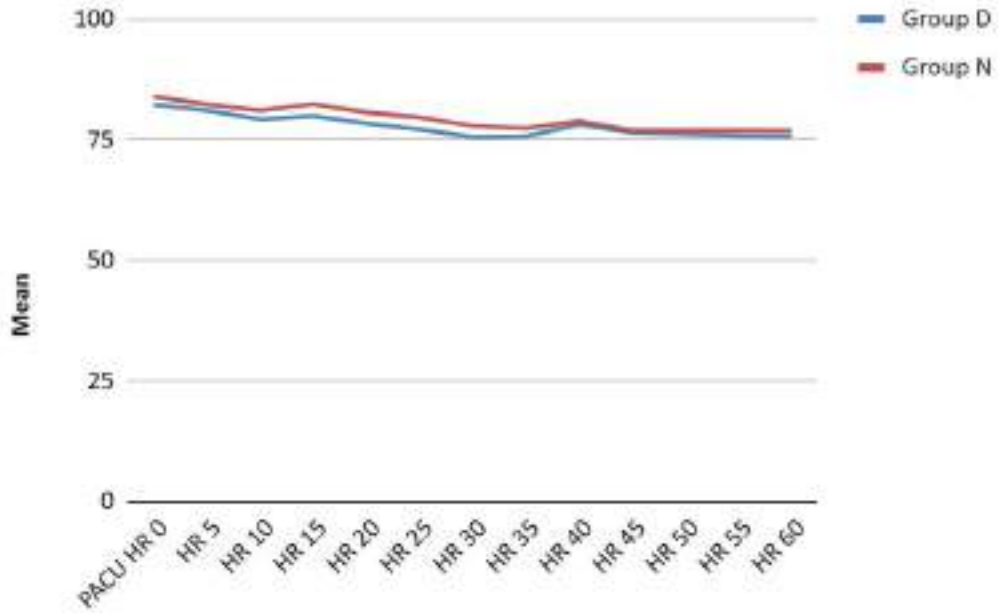

Figure 24: Trends in mean heart rate in PACU.

Table 7 b: Trends in mean Systolic Blood pressure (SBP):

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
PACU SYS BP 0	125.49	11.44	126.77	11.93	-0.528	0.598
SYS BP 5	124.43	10.20	125.66	10.28	-0.522	0.601
SYS BP 10	123.26	10.26	124.57	10.26	-0.499	0.618
SYS BP 15	123.60	9.20	125.54	10.00	-1.007	0.314
SYS BP 20	121.71	8.53	123.23	9.61	-0.649	0.517
SYS BP 25	119.57	8.31	121.57	9.57	-1.015	0.310
SYS BP 30	120.69	7.73	122.23	8.69	-1.153	0.249
SYS BP 35	120.23	8.87	121.11	9.06	-0.751	0.453
SYS BP 40	121.06	9.48	122.17	9.15	-0.688	0.491
SYS BP 45	119.14	8.11	120.97	8.18	-1.229	0.219
SYS BP 50	119.57	7.77	120.66	7.99	-1.067	0.286
SYS BP 55	118.71	7.79	119.66	8.42	-0.659	0.510
SYS BP 60	119.31	7.66	119.51	7.41	-0.216	0.829

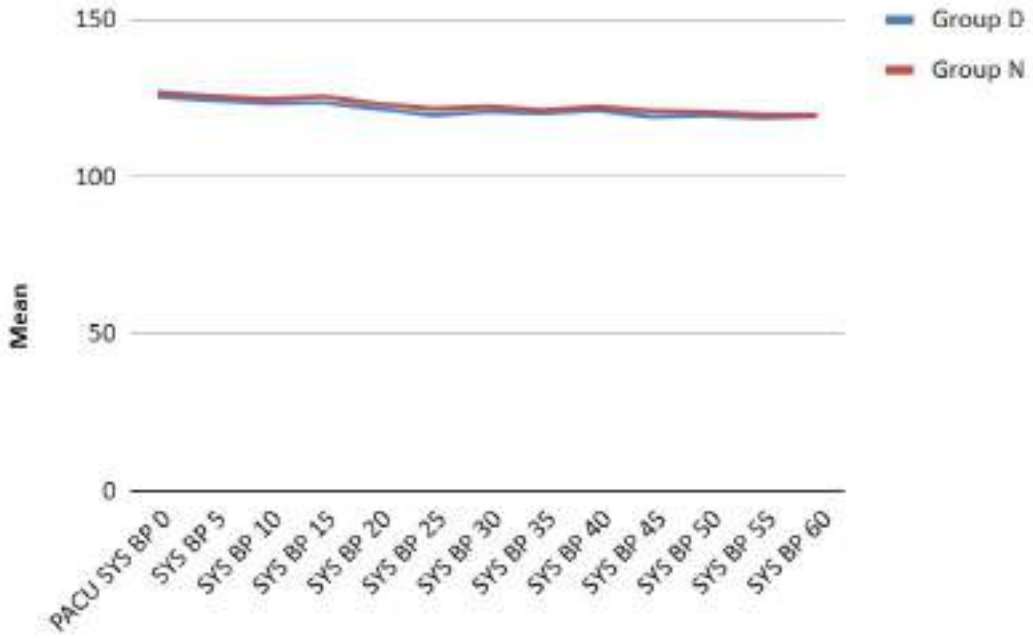

Figure 25: Trends in mean Systolic Blood pressure (SBP) in PACU.

Table-7c: Trends in mean Diastolic Blood pressure(SBP):

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
PACU DIA BP 0	79.17	11.21	80.20	11.19	-0.893	0.372
DIA BP 5	77.54	10.33	78.86	10.48	-0.867	0.386
DIA BP 10	76.86	12.15	77.26	11.59	-0.084	0.933
DIA BP 15	78.09	9.81	79.40	10.13	-0.657	0.511
DIA BP 20	75.37	9.37	76.57	9.63	-0.731	0.465
DIA BP 25	77.46	10.06	78.71	10.31	-0.559	0.576
DIA BP 30	74.94	8.18	75.51	7.82	-0.422	0.673
DIA BP 35	74.26	9.31	75.11	9.54	-0.622	0.534
DIA BP 40	73.69	9.63	74.29	9.79	-0.236	0.814
DIA BP 45	72.14	8.27	73.46	9.13	-0.625	0.532
DIA BP 50	70.40	8.60	71.80	9.19	-0.631	0.528
DIA BP 55	71.86	9.58	72.63	9.85	-0.247	0.805
DIA BP 60	73.09	9.17	73.60	9.64	-0.182	0.856

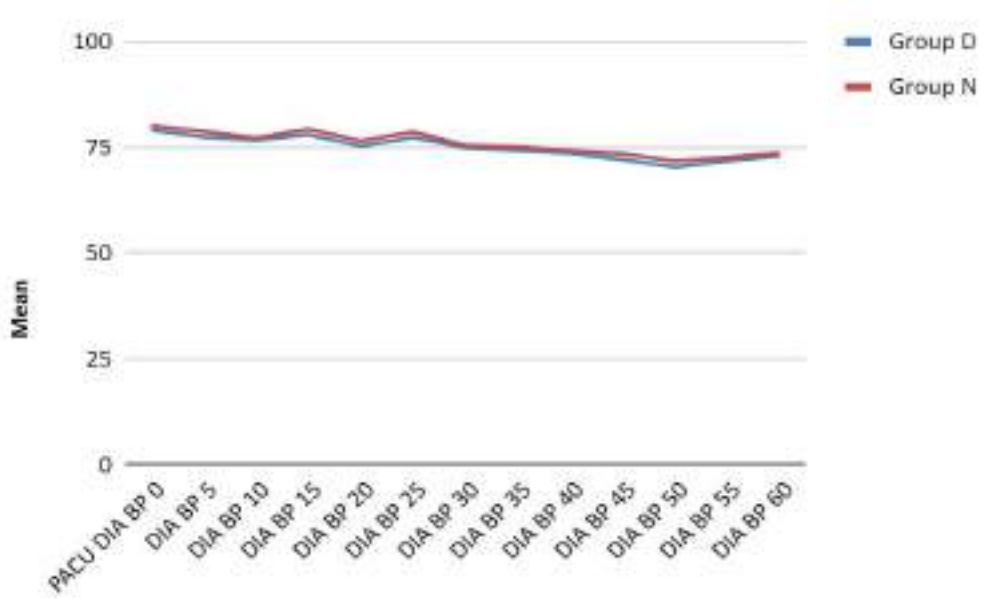

Figure 26: Trends in mean Diastolic Blood pressure (DBP) in PACU.

Table-7d: Trends in mean SpO2:

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
PACU SPO2 0	99.57	0.83	99.57	0.83	0.000	1.000
SPO2 5	99.40	1.20	99.27	1.40	-0.331	0.740
SPO2 10	99.24	1.26	98.99	1.49	-0.920	0.358
SPO2 15	99.27	1.23	99.03	1.44	-0.902	0.367
SPO2 20	99.23	1.24	99.07	1.44	-0.505	0.613
SPO2 25	99.36	1.17	99.13	1.41	-0.660	0.509
SPO2 30	99.39	1.15	99.13	1.39	-0.941	0.347
SPO2 35	99.44	0.94	99.26	1.14	-0.696	0.487
SPO2 40	99.21	1.26	99.07	1.43	-0.470	0.638
SPO2 45	99.34	1.05	99.20	1.16	-0.704	0.482
SPO2 50	99.11	1.42	98.93	1.54	-0.738	0.460
SPO2 55	99.36	1.25	99.22	1.45	-0.378	0.705
SPO2 60	99.26	1.24	99.07	1.45	-0.587	0.558

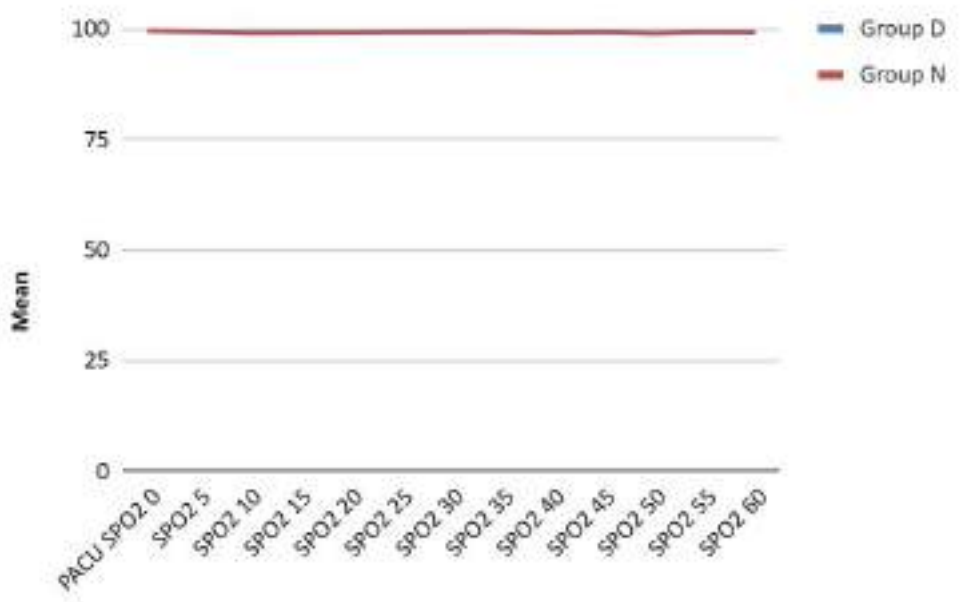

Figure 27: Trends in mean SpO2 in PACU.

8. The analgesic requirement in PACU:

To compare the analgesic requirement in both the groups postoperatively, VAS scores were noted and analgesia was given accordingly. There was no significant difference in the requirement for analgesia between the two groups.

Table-8a: Mean VAS scores:

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
PACU VAS 0	4.93	2.14	5.34	1.98	-1.042	0.298
VAS 5	4.64	2.26	4.90	2.17	-0.843	0.399
VAS 10	4.47	1.80	4.79	1.77	-1.078	0.281
VAS 15	4.07	1.60	4.36	1.54	-1.175	0.240
VAS 20	3.54	1.37	3.69	1.30	-0.868	0.385
VAS 25	3.49	1.13	3.53	1.02	-0.488	0.626
VAS 30	3.21	1.21	3.31	1.10	-0.777	0.437
VAS 35	3.16	1.15	3.21	1.17	-0.284	0.776
VAS 40	2.96	1.17	3.46	3.66	-0.588	0.557
VAS 45	2.81	1.11	2.79	1.08	-0.103	0.918
VAS 50	2.71	1.02	2.71	1.04	-0.077	0.939
VAS 55	2.46	1.07	2.43	1.08	-0.153	0.878
VAS 60	1.93	0.31	1.89	0.32	-0.785	0.432

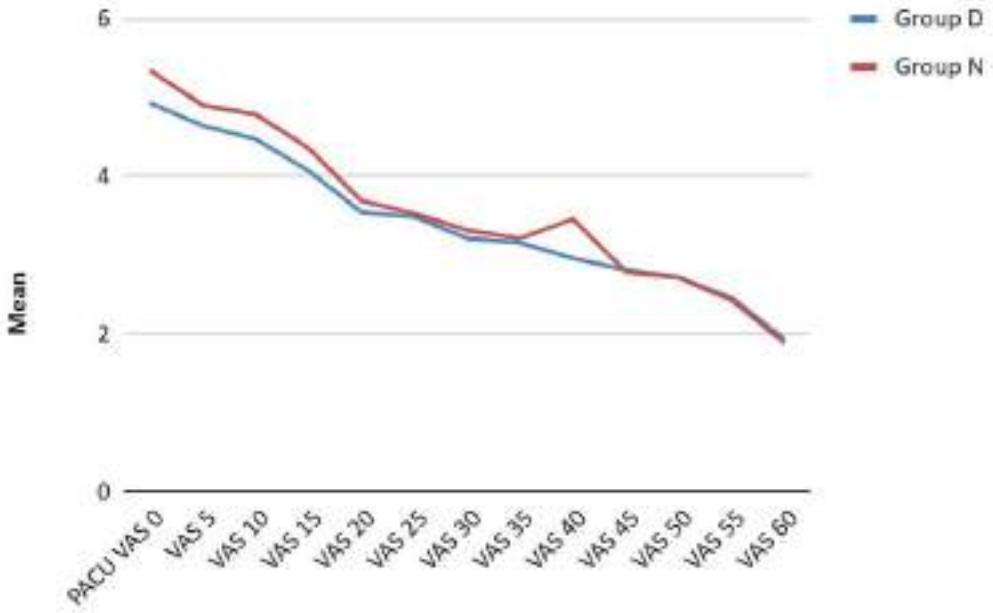

Figure 28: Trend of VAS score after shifting to PACU between the groups.

Table-8b: Mean first rescue analgesia:

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
FIRST RESCUE ANALGESIA	15.00	15.37	13.43	14.70	-0.766	0.444

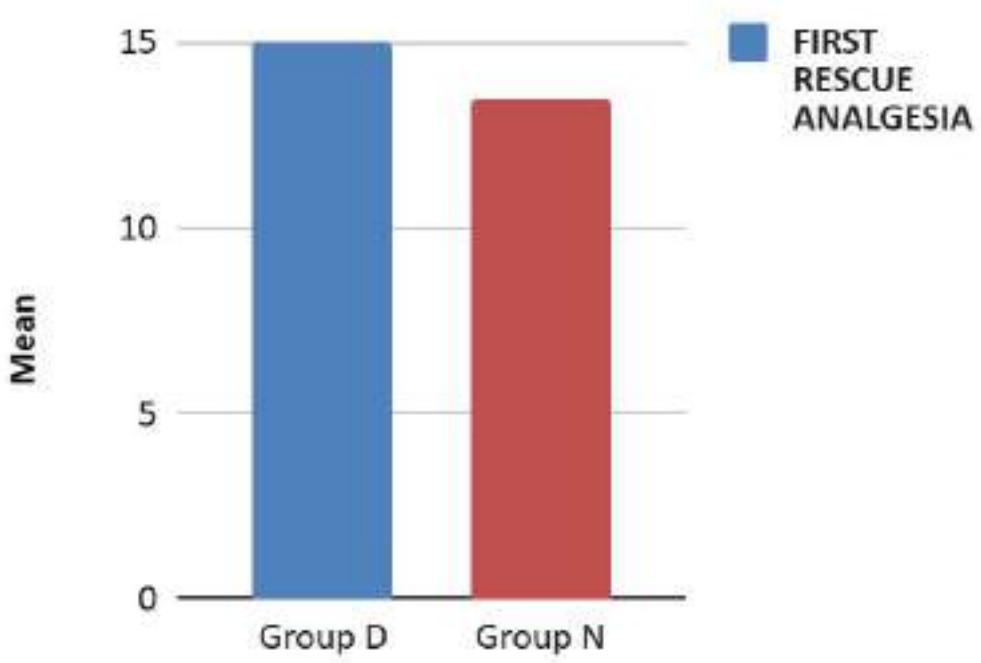

Figure 29: First rescue analgesia demand after shifting to PACU.

Table-8c: Mean total fentanyl and tramadol usage.

	Group D		Group N		Z	p-value
	Mean	SD	Mean	SD		
TOTAL ANALGESIA FENTANYL MCG	35.59	12.46	35.07	12.35	-0.235	0.814
TOTAL ANALGESIA TRAMADOL MG	50.00	0.00	50.00	0.00	0.000	1.000

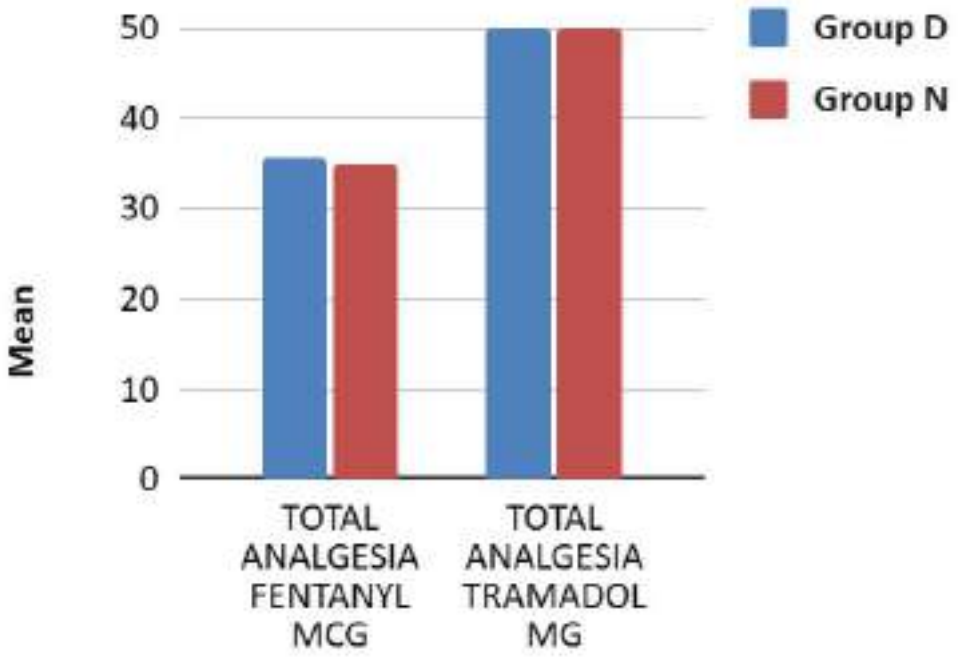

Figure 30: Comparison of total fentanyl and tramadol usage for analgesia after shifting to PACU between the groups.

DISCUSSION

EA is a temporary state of agitation observed during extubation from GA. In 2016, Rim et al.[13] described EA as a spectrum of behaviors ranging from mild agitation, confusion, and delirium to violent and aggressive behavior. This condition can manifest within the first 24 to 72 hours following surgery, either in the OR or PACU.

The incidence of EA spans a broad spectrum, from approximately 0.25% to 90.5%[2] This range is influenced by variables[12] such as the patient's age, the assessment tools and definitions applied, the anesthetic methods used, the type of surgery conducted, and the timing of EA evaluation during recovery. The clinical impacts of EA can be considerable, possibly resulting in injuries to patients or staff, falls, bleeding at the surgical site, accidental removal of drains or IV catheters, unintentional extubation, respiratory depression, and heightened medical care costs.

Patients who experience higher levels of preoperative anxiety are more likely to develop EA postoperatively. This relationship suggests that managing preoperative anxiety could possibly decrease the occurrence of EA and improve patient outcomes. Zeb et al,[48] in 2024 conducted a study on 150 adult patients to investigate the incidence of preoperative anxiety using the “Amsterdam Preoperative Anxiety and Information Scale (APAIS)”. Their findings revealed that severe preoperative anxiety was present in 67.5% of patients, which is a direct risk factor for EA.

In our study, 17.1% of patients in the control group experienced anxiety in the preoperative period, while no such case was found in group D where patients had received dexmedetomidine infusion preoperatively. Mean preoperative RASS (after dexmedetomidine infusion) was 3.96 ± 0.20 in group D and 4.17 ± 0.38 in Group N (p-value =0.001); depicting a higher level of anxiety in group N compared to group D. Thus, dexmedetomidine effectively reduced preoperative anxiety both in terms of incidence and severity. Similarly, B. Linares Segovia et al[47].,

in their clinical trial on 108 children evaluated the impact of intranasal dexmedetomidine against oral midazolam and determined that dexmedetomidine premedication reduced preoperative anxiety by 28% and it had better results in comparison to midazolam.

In our study, the incidence of EA came out to be 48.6% in the control group. Similarly,Choi et al.[26] (2021) carried out a study on 90 patients undergoing elective laparoscopic cholecystectomy to examine the effect of dexmedetomidine. They found that the control group had a 64% incidence of EA. In their study, dexmedetomidine was administered as a bolus after Anaesthesia induction and continued intraoperatively which decreased the incidence of EA to 23%. In another study by Xianhui Kang et al., done on 814 patients posted for lung surgeries, the use of intraoperative dexmedetomidine decreased the incidence of EA to 10.9%. In our study, the incidence of EA in group D was 2.9%. This better control of EA in our study can be attributed to preoperative use of dexmedetomidine; which helps to alleviate preoperative anxiety. The impact of intraoperative dexmedetomidine infusion on EA has been extensively studied, whereas there is limited research available on the use of preoperative dexmedetomidine infusion. Kim et al.[24], in the study on 90 patients undergoing nasal bone surgeries noted a 24% lower incidence of EA with the use of preoperative infusion of dexmedetomidine, while in our study this incidence decreased by 45.7%. This relatively lesser decrease in the incidence of EA in a study by Kim et al., as compared to our study can be attributed to the reason that nasal surgery is itself an independent risk factor for EA.

The intensity of EA can be observed and measured using a variety of scales such as Pediatric Anaesthesia Emergence Delirium scale (in children), Riker Sedation-Agitation Scale, Richmond Agitation-Sedation Scale, Aono's 4-point scale, Nurses Delirium scale, Three-point scale (graded as mild, moderate, or severe.[12] In our study, we employed the Riker agitation and sedation scale (RASS)[29] to assess and grade the

severity of agitation. Patients having RASS of ≥+5 during emergence from Anaesthesia were considered positive for EA and those with <2 were considered to be deeply sedated.

At the time of extubation, the mean RASS value (3.03 ± 0.51) was significantly lower in Group D as compared to Group N (4.54 ± 0.63) (p-value =0.001). Five minutes after extubation, this trend continued with Group D exhibiting a significantly lower RASS value (p-value = 0.001). Our findings are similar to those of Kim et al., who reported a significantly lower mean RASS of 2.9 ± 0.7 with the use of preoperative dexmedetomidine infusion in nasal surgeries at the time of extubation as compared to the control group (mean RASS of 4.3 ± 0.8). In a study by Bielka et al[37], dexmedetomidine infusion was used intraoperatively during laparoscopic cholecystectomy. Patients in the interventional group exhibited lower RASS scores immediately after extubation (mean RASS of 2.8 ± 0.6) and at 5 minutes post-extubation, while patients in the control group had higher RASS values. The RASS value (2.8 ± 0.6)) in the dexmedetomidine group at the time of extubation in their study is lower than the RASS (3.03 ± 0.51) value seen in group D in our study. A low RASS value means that patients were more sedated at the time of extubation in their study. This can be explained by the intraoperative use of dexmedetomidine infusion in their study as compared to preoperative infusion in our study.

We used dexmedetomidine as a preoperative infusion in the dose of 1 mcg/kg in 20 ml of normal saline over 20 minutes. Singha et al.[40], in their study, compared three different doses of dexmedetomidine: 0.5 µg/kg (group A), 0.75 µg/kg (group B), and 1 µg/kg (group C) in 10 ml infusion started 10 minutes before extubation. They observed that patients of group C were deeply sedated during extubation. In our study, only 5 patients were sedated during extubation in group D but were easily arousable. The main reason behind this difference could be the preoperative use of dexmedetomidine in our study as compared to its use just before extubation in their study. Qin Ye et al[38]. studied the

effect of preoperative use of three different doses of dexmedetomidine (0.4, 0.6, 0.8μg/kg) given as boluses 10 minutes before induction. No patient was found to be excessively sedated at the end of extubation in any of these groups, indicating use of dexmedetomidine preoperatively does not cause excessive sedation at the end of extubation. They also reported a significant decrease in the incidence of EA with different doses of dexmedetomidine. These results are consistent with our study, thus demonstrating the efficacy of preoperative use of dexmedetomidine in reducing EA and preventing excessive sedation at the end of extubation.

Another parameter that we compared was extubation time (T1-T0)) which was noted from the time of cessation of sevoflurane (T0) to extubation (T1). In our study, extubation time was significantly longer in Group D (8.13 ± 1.13 minutes) compared to Group N (3.97 ± 0.72 minutes) with p-value = 0.001. Garg et al.[32] studied the effect of intraoperative dexmedetomidine infusion in patients undergoing nasal surgeries; and reported findings consistent with our study. Their study demonstrated prolonged extubation time in patients administered dexmedetomidine (8.54 ± 0.59 minutes) compared to the control group (5.49 ± 0.41 minutes), reflecting delayed recovery from Anaesthesia. This aligns with the literature on the pharmacological effects of dexmedetomidine, which often leads to slower recovery profiles.

In our study, emergence time (T2-T0)), defined as the interval from the cessation of sevoflurane(T0) to the patient's verbal response (T2), was also significantly longer in Group D (10.53 ± 1.36 minutes) compared to Group N (5.60 ± 0.87 minutes). Similarly, the emergence time in Garg et al.'s[32] study, was longer in the dexmedetomidine group (9.2 ± 0.6 minutes) compared to the control group (5.64 ± 0.37 minutes), paralleling the observations of our study. In a meta-analysis by Yang et al.[49] which included 33 studies, with 2549 patients, they observed the effect of dexmedetomidine on EA and recovery profile and concluded

that use of dexmedetomidine resulted in longer emergence and extubation times.

We enrolled patients scheduled for abdominal laparoscopic surgeries including cholecystectomy, appendectomy, and hysterectomy, and found no significant difference between the incidence of EA on the type of laparoscopic abdominal surgery performed.

In our study, induction was done using intravenous propofol, and maintenance of Anaesthesia was done using the inhalational agent Sevoflurane 2% in 50% oxygen and 50% nitrous oxide. It is widely reported in the literature that sevoflurane is a direct risk factor for EA while propofol-based TIVA had a prophylactic effect on EA in both adult and pediatric age groups. Jo et al[14] in an RCT compared two anesthetic techniques i.e. maintenance with total intravenous Anaesthesia (TIVA) vs volatile induction and maintenance(VIMA) and found that the incidence of EA was significantly lower in the TIVA group(2.5%) as compared to VIMA group (20.0%). Dariush Sheikhzade et al[15], compared sevoflurane and TIVA in 80 patients and found that EA was 62% higher in the sevoflurane group. This is in concordance with our study in which sevoflurane was used and the incidence of EA in the control group came out to be 48.6%. Similar study was conducted by J.Lerman et al. [16]

To study the incidence of EA concerning age, patients in both groups were subcategorized into two groups: 18-40 years and 41-65 years. In group N, EA was more prevalent in the older age group (n=23) than the younger age group (n=11), but this difference was not statistically significant (p value=0.583). Many studies[12] suggest that the incidence of EA is higher in pediatric age groups. Radtke et al.[44] in a study on 1868 patients, divided patients into three age groups (18 to 39, 40 to 64, and ≥ 65 years) and observed incidence of EA in them. They concluded that the younger group and the older group were at a higher risk for EA. Daihua Yu et al.,[50] in a study on 2000 adult patients, to determine the incidence of EA in a undergoing various surgeries

under GA, concluded that EA had no statistically significant relationship (p value= 0.953) with age, but is more related to the type of surgery (ENT, oral) being performed. Due to the varying results in the studies mentioned, a conclusion can not be drawn on this relationship, and more studies are required to establish the relationship between EA and age.

In our study, an association of gender on the incidence of EA found that EA was more prevalent in the male gender with statistically significant results (p-value =0.001).In the retrospective study by JC Rim et al.[13], in 5358 patients, in all spectrum of surgeries in patients receiving GA, male gender was more associated with EA with a significant p-value of 0.001, which parallels with our study.

Dexmedetomidine[12,24,25,26] is an anxiolytic that leads to conscious sedation without respiratory depression and can have hemodynamic effects like hypotension and bradycardia.

In the preoperative area, the preoperative vitals were comparable in the two groups. After 10 minutes of starting with the preoperative dexmedetomidine infusion in group D; a significant decrease in heart rate, systolic blood pressure, and diastolic blood pressure was observed. These findings align with the expected pharmacological effects of dexmedetomidine. There was a single case where a patient receiving dexmedetomidine infusion in the preoperative area developed bradycardia with a heart rate of 44, which resolved after stopping the infusion. Our findings are consistent with the study on hemodynamic effects of preoperative bolus of dexmedetomidine in laparoscopic surgeries by Fasil et al.[45], who reported a significant reduction in heart rate and mean arterial pressure (MAP) after premedication with dexmedetomidine in laparoscopic surgeries.

The use of dexmedetomidine infusion preoperatively also exhibited significantly better hemodynamic responses to intubation, creation of pneumoperitoneum, and surgical incision compared to the control

group. In a study by Indira et al.,[51] they observed that the use of preoperative infusion of dexmedetomidine in laparoscopic surgeries resulted in blunting of sympathetic response to intubation as well as to creation of pneumoperitoneum. In our study, the HR, SBP, and DBP remained on the lower side throughout the surgery in group D but no significant decrease was appreciated at the time of extubation which could be attributed to the short half-life of dexmedetomidiene of 2 hours after which its effect started to wean off.

Demographic data including age, gender, ASA grade, comorbidities, and BMI was comparable in both groups. The mean duration of surgery was 53.86±20.68 minutes in group D and 57.61±18.76 minutes in group N which was statistically non-significant. There was no significant difference in hemodynamic parameters in the groups preoperatively.

In the post-Anaesthesia care unit, 48.6% of patients in Group D required analgesia while in Group N, 57.1% of patients required analgesia. The time for first rescue analgesia was 15+-15.37 in group D and 13.43 +-14.70 in group N. Both groups had no significant difference, but the demand for first-rescue analgesia was seen in group N earlier. Jung-Kyu Park et al[52]., studied the use of dexmedetomidine for postoperative pain in laparoscopic surgeries, wherein they found no significant differences in VAS scores among the two groups (n=20 in each group), even after using dexmedetomidine 1 μg/kg, 10 min before induction and 0.5 μg/kg/h continuous infusion until the removal of the gall bladder.

Our study has several limitations. First, the surgeries were performed by different surgeons, which may have led to variations in surgical technique and, consequently, different levels of pain and discomfort during the immediate postoperative period. Second, EA was monitored for only one hour postoperatively, whereas a longer observation period of 24 hours could have provided more comprehensive data. Lastly, the study was conducted at a single center and included only Indian

patients from a specific geographic region, which may limit the generalizability of the findings.

In conclusion, premedication with dexmedetomidine effectively reduces the incidence and severity of emergence agitation by alleviating preoperative anxiety. Additionally, it provides a superior hemodynamic profile during surgery, enhancing overall patient outcomes.

SUMMARY & CONCLUSION

This study was conducted in the Department of Anesthesiology at Dayanand Medical College and Hospital, Ludhiana, following approval from the Institutional Ethics Committee. The aim was to evaluate the effect of preoperative intravenous infusion of dexmedetomidine on emergence agitation (EA) and hemodynamic parameters. A total of 140 patients belonging to ASA I, II, III scheduled for laparoscopic abdominal surgeries under general Anaesthesia were included in this randomized, double-blind study, with written consent obtained from each participant. Patients were randomly allocated using computer-generated random numbers into one of two groups:

Group D:

Consisted of 70 patients who received an infusion of dexmedetomidine at a dose of 1 mcg/kg in 20 ml normal saline over 20 minutes in the preoperative area prior to being shifted to the operating theatre.

Group N:

Consisted of 70 patients who received an infusion of 20 ml normal saline over 20 minutes in the preoperative area prior to being shifted to the operating theatre.

Following the administration of the preoperative infusion, patients in both groups were assessed for emergence agitation during extubation, its severity and incidence, extubation time, emergence time, intraoperative hemodynamic changes, and analgesia requirements in the post-Anaesthesia care unit (PACU).

Key observations included:

1. The incidence of EA was significantly lower in Group D (2.9%) compared to Group N (48.6%).
2. The severity of EA, measured by the Riker Agitation Sedation Scale (RASS) score, was significantly lower in Group D compared to Group N (p-value=0.001) at 0 and 5 minutes after extubation.

3. Extubation time was significantly longer in Group D (8.13 ± 1.13 minutes) compared to Group N (3.97 ± 0.72 minutes).
4. Emergence time was also significantly longer in Group D (10.53 ± 1.36 minutes) compared to Group N (5.60 ± 0.87 minutes).
5. Intraoperative hemodynamic changes were better managed in Group D, showing significantly more stable responses to intubation, creation of pneumoperitoneum, and surgical incision compared to the control group.
6. Analgesia requirements in the PACU showed no significant difference between the two groups.

In conclusion, the results of this study indicate that premedication with dexmedetomidine effectively reduces the incidence and severity of emergence agitation by alleviating preoperative anxiety in patients undergoing laparoscopic abdominal surgeries.

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Sr. No	MRD	NAME	AGE	GENDER	Group	HEIGHT (cms)	WEIGHT (kgs)	ASA	COMORB.	PREOP-HR (bpm) 0	HR 5	HR 10	HR 15	HR 20	PREOP-SYS BP (mmHg) 0	SYS BP 5	SYS BP 10	SYS BP 15	SYS BP 20	PREOP DIA BP (mmHg) 0	DIA BP 5	DIA BP 10
1	1424384	SS	30	M	D	162	44	2	UNDERWEIGHT, ANEMIA	98	96	89	87	85	128	124	126	118	116	88	84	82
2	1421200	PD	60	F	D	152	63	2	DIABETIC	84	86	76	75	73	128	118	124	114	112	88	84	74
3	1429085	SK	50	M	D	172	88	2	HYPERTENSION	98	98	88	85	79	144	140	142	136	134	84	80	78
4	1430727	JS	64	M	D	168	53	2	ANEMIA	64	62	58	55	53	110	116	106	100	102	68	70	68
5	1410494	N	42	F	N	152	56	1	-	94	92	98	94	90	124	122	120	124	118	84	82	80
6	403637	JS	32	M	D	170	78	1	-	88	85	78	75	73	118	114	114	106	108	70	70	66
7	1390453	RB	29	M	D	160	64	1	-	88	84	74	73	73	134	130	128	124	118	80	82	78
8	1420155	AR	38	F	D	162	65	1	-	74	70	62	61	63	122	116	118	108	116	68	66	68
9	1419848	SK	50	M	N	165	68	2	HYPERTENSION	66	64	68	72	66	144	142	138	136	140	90	88	92
10	1421899	RC	19	M	N	164	62	1	-	106	104	100	108	110	124	122	118	128	120	78	70	74
11	1423824	KS	44	M	D	175	72	1	-	98	96	89	87	85	118	110	107	96	96	88	80	82
12	1359976	RK	40	F	D	170	75	1	-	84	86	76	75	73	128	118	124	114	112	88	84	74
13	1427591	KK	45	M	N	168	76	2	HYPERTENSION	98	98	94	90	84	144	140	142	138	136	84	80	78
14	1421244	AR	46	M	N	162	78	2	DIABETIC	74	78	79	82	88	138	130	128	132	130	78	70	74
15	1471089	DN	26	F	D	164	71	1	-	84	80	82	83	81	120	112	116	108	108	74	70	68
16	150914	SK	37	M	N	156	74	1	-	88	90	92	98	97	128	130	128	126	128	70	74	70
17	1471755	SD	62	M	N	158	75	2	HYPERTENSION	80	84	80	81	85	138	132	134	132	134	80	82	88
18	1472285	BK	61	F	N	162	68	3	HYPERTENSION, CAD, CKD	74	78	68	66	68	122	124	128	122	124	68	68	68
19	1220663	PS	47	M	N	161	88	2	HYPERTENSION	66	70	68	72	70	144	142	142	140	140	90	88	92
20	1472835	PK	28	M	D	160.5	82	1	-	100	98	92	91	89	132	122	120	114	116	74	70	72
21	1278967	NR	55	M	N	162	76	2	DIABETIC	98	99	98	97	98	128	130	134	130	128	88	90	88
22	1473346	BK	34	F	N	168	78	1	-	84	86	88	90	84	128	130	124	128	126	88	84	74
23	1474002	SD	62	M	D	158	79	2	HYPERTENSION	98	96	84	85	79	144	140	142	136	134	84	80	78
24	1474298	NG	41	M	N	160	78	1	-	64	70	74	70	72	118	116	120	118	122	68	70	72
25	99591	MK	52	F	N	164	50	2	HYPERTENSION, HYPOTHYROID	94	92	98	94	90	144	134	140	134	138	84	82	80
26	1477393	BK	50	M	N	165	64	2	DIABETIC	88	85	84	80	78	118	114	114	108	110	70	70	66
27	447175	N	33	M	N	165	89	1	-	88	90	84	88	86	134	130	132	136	128	80	82	84
28	1484759	VK	51	F	D	161	81	1	-	74	70	62	59	55	122	116	118	108	116	68	66	68
29	1433725	SD	54	M	D	180	90	2	HYPERTENSION, DIABETIC	76	70	62	62	61	144	142	138	134	138	90	88	92
30	14821941	MK	65	M	D	167	72	3	HYPERTENSION, DIABETIC	106	104	94	93	85	148	144	138	128	126	78	70	74
31	1481650	SS	64	M	D	163	64	3	HYPERTENSION, DIABETIC	98	96	89	87	85	128	124	126	118	116	88	84	82
32	1482066	KK	32	F	N	164	78	1	-	84	86	82	86	82	128	124	124	130	132	88	84	80
33	1462588	N	36	M	D	158	88	2	OBESITY 1	98	98	88	85	79	144	140	142	136	134	84	80	78
34	1482019	NJ	51	M	D	170	72	2	HYPERTENSION	64	62	58	55	53	110	116	106	100	102	68	70	68
35	1483718	M	49	F	D	168	64	1	-	94	92	92	89	85	124	122	120	122	116	84	82	80
36	1483745	PS	42	M	D	172	78	1	-	88	85	78	75	73	118	114	114	106	108	70	70	66
37	329368	SG	42	M	N	159	63	2	HYPOTHYROID	88	84	80	78	78	134	130	128	126	120	80	82	78
38	3783741	R	41	F	D	158	79	1	-	74	70	62	61	63	122	116	118	108	116	68	66	68
39	1489485	DS	59	M	N	160	73	2	HYPERTENSION	66	64	68	72	66	144	142	138	136	140	90	88	92
40	1490086	LS	58	M	N	162	72	1	-	106	104	100	108	110	124	122	118	128	120	78	70	74
41	1489355	HM	39	M	D	165	80	1	-	98	96	89	87	85	128	124	126	118	116	88	84	82
42	70416	SK	52	F	N	160	58	2	HYPERTENSION	84	86	82	80	78	128	118	124	116	114	88	84	74
43	1352056	GS	32	M	N	164	78	1	-	98	98	94	90	84	144	140	142	138	136	84	80	78
44	146495	UR	55	M	D	163	72	2	HYPERTENSION	64	62	58	55	53	110	116	106	100	102	68	70	68
45	1487453	GK	29	F	D	167	64	1	-	94	92	92	89	85	124	122	120	122	116	84	82	80
46	1488429	R	49	M	N	170	78	1	-	88	85	84	80	78	118	114	114	108	110	70	70	66
47	14876991	NK	28	M	D	156	63	1	-	88	84	74	73	73	134	130	128	124	118	80	82	78
48	1487981	JS	42	F	D	162	79	1	-	74	70	62	61	63	122	116	118	108	116	68	66	68
49	1487784	P	38	M	D	166	73	1	-	66	64	62	67	61	144	142	138	134	138	90	88	92
50	1453207	MS	40	M	N	167	72	1	-	106	104	100	108	110	124	122	118	128	120	78	70	74
51	1487275	PR	44	M	N	163	80	1	-	98	96	95	92	90	128	124	126	120	118	88	84	82
52	388404	GK	40	F	N	164	60	1	-	84	86	82	80	78	128	118	124	116	114	88	84	74
53	1470686	SR	65	M	D	163	77	2	HYPERTENSION	98	98	88	85	79	144	140	142	136	134	84	80	78
54	1546622	SK	24	M	N	159	78	1	-	64	62	64	60	58	110	116	106	102	104	68	70	68
55	124223	KL	54	F	N	162	76	2	HYPERTENSION	94	92	98	94	90	124	122	120	124	118	84	82	80
56	1547539	PK	46	M	D	161	85	2	DIABETIC	88	85	78	75	73	118	114	114	106	108	70	70	66
57	460648	PR	44	M	D	168	58	1	-	88	84	74	73	73	134	130	128	124	118	80	82	78
58	1542271	HS	49	F	N	172	64	2	HYPERTENSION	74	70	68	66	68	122	116	118	110	118	68	66	68
59	1546637	I	33	M	D	169	89	1	-	66	64	62	67	61	144	142	138	134	138	90	88	92
60	150873	R	22	M	D	165	81	1	-	106	104	94	103	105	124	122	118	126	118	78	70	74
61	1548650	S	28	M	N	178	92	1	-	98	96	95	92	90	128	124	126	120	118	88	84	82
62	1548255	AK	56	F	D	159	78	2	HYPERTENSION	84	86	76	75	73	128	118	124	114	112	88	84	74
63	1552054	P	30	M	N	160	66	1	-	98	98	94	90	84	144	140	142	138	136	84	80	78
64	699111	MS	20	M	N	161	81	1	EMERGENCE AGITATION	64	62	64	60	58	110	116	106	102	104	68	70	68
65	1560893	AS	19	F	N	158	72	3	BRONCHIAL ASTHMA, EMERGENCE AGITATION	94	92	98	94	90	124	122	120	124	118	84	82	80
66	1600511	K	36	M	D	158	73	1	-	88	85	78	75	73	118	114	114	106	108	70	70	66
67	1600216	I	34	M	D	162	79	1	-	88	84	74	73	73	134	130	128	124	118	80	82	78
68	10884481	MC	50	F	N	165	63	2	HYPERTENSION	74	70	68	66	68	122	116	118	110	118	68	66	68
69	1598873	SK	53	M	N	160	78	2	HYPERTENSION, DIABETIC	66	64	68	72	66	144	142	138	136	140	90	88	92
70	1600018	NK	62	M	D	170	64	3	HYPERTENSION, DIABETIC	106	104	94	103	105	124	122	118	126	118	78	70	74

Sr. No	MRD	DIA BP 15	DIA BP 20	PREOP SPO2 0	SPO2 5	SPO2 10	SPO2 15	SPO2 20	INTRAOP HR BEFORE INDUCTION	INTRAOP HR AFTER INDUCTION	HR 5	HR 10	HR 15	HR 20	HR 25	HR 30	HR 35	HR 40	HR 45	HR 50	HR 55	HR 60	HR 65	HR 70	HR 75	HR 80	HR 85	HR 90	HR 95	HR 100	HR 105	HR 110	HR 115	HR 120
1	1424384	72	82	99	99	99	99	99	70	86	82	78	84	82	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
2	1421200	66	68	97	98	96	96	96	76	86	94	92	88	90	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
3	1429085	78	68	98	98	98	98	98	72	70	88	82	80	74	72	74	76	78	88	86	84	76	82	94	98	94	104	110	106	-	-	-	-	-
4	1430727	64	66	99	99	99	99	99	60	66	64	60	62	60	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
5	1410494	82	80	100	100	100	100	100	92	90	91	93	91	87	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	403637	66	64	100	100	100	100	100	64	60	62	64	66	68	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	1390453	68	68	100	100	100	100	100	68	74	74	70	72	78	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	1420155	60	64	100	100	100	100	100	64	66	70	68	72	74	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
9	1419848	82	84	98	98	100	100	99	68	94	91	87	93	89	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
10	1421899	80	78	100	100	100	100	100	106	110	107	101	97	95	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	1423824	72	78	97	97	97	98	99	70	86	82	78	84	82	82	80	78	80	80	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
12	1359976	66	68	97	98	96	96	96	76	86	94	92	88	90	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
13	1427591	80	70	98	98	98	98	98	74	72	91	85	83	77	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
14	1421244	70	78	96	96	98	99	97	89	90	95	89	89	83	78	84	88	80	82	80	78	88	-	-	-	-	-	-	-	-	-	-	-	-
15	1471089	58	58	100	100	100	99	99	66	68	64	60	64	66	68	70	66	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	150914	72	70	100	99	100	100	100	86	82	83	87	89	91	88	87	86	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	1471755	86	80	100	100	99	100	99	82	86	87	83	85	91	80	82	84	86	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	1472285	70	68	100	100	100	99	99	86	88	83	91	85	87	80	88	86	84	82	86	88	80	-	-	-	-	-	-	-	-	-	-	-	-
19	1220663	80	84	98	98	100	99	99	78	94	93	91	93	89	88	89	86	88	82	86	80	88	86	85	-	-	-	-	-	-	-	-	-	-
20	1472835	66	66	98	97	97	97	97	86	86	86	84	84	82	86	86	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	1278967	84	88	99	99	97	99	98	82	90	91	90	91	92	86	87	88	86	87	86	89	85	86	87	-	-	-	-	-	-	-	-	-	-
22	1473346	70	74	97	98	96	96	96	78	88	97	95	91	93	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
23	1474002	78	68	98	98	98	98	98	72	70	88	82	80	74	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	-	-	-	-
24	1474298	70	68	99	99	100	99	99	78	88	85	83	81	73	72	74	72	70	74	76	72	76	-	-	-	-	-	-	-	-	-	-	-	-
25	99591	82	80	100	100	99	100	99	92	90	91	93	91	87	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	1477393	68	66	100	100	100	100	100	66	62	65	67	69	71	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	447175	80	82	100	99	98	99	100	86	90	91	87	85	91	80	86	84	86	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	1484759	60	64	100	100	100	100	100	64	66	70	68	72	74	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
29	1433725	80	82	98	98	100	100	99	66	68	68	64	60	66	62	64	66	64	70	66	64	68	66	70	-	-	-	-	-	-	-	-	-	-
30	14821941	68	68	100	98	98	99	100	86	88	82	80	78	76	77	78	74	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	1481650	72	82	99	99	99	99	99	70	86	82	78	84	82	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
32	1482066	82	78	97	98	96	96	96	78	88	97	95	91	93	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
33	1462588	78	68	98	98	98	98	98	72	70	88	82	80	74	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
34	1482019	64	66	99	99	99	99	99	60	66	64	60	62	60	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
35	1483718	80	78	100	100	100	100	100	90	88	88	90	88	84	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	1483745	66	64	100	100	100	100	100	64	60	62	64	66	68	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	329368	70	70	100	100	100	100	100	70	76	77	73	75	81	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	3783741	60	64	100	100	100	100	100	64	66	70	68	72	74	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
39	1489485	82	84	98	98	100	100	99	68	94	91	87	93	89	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
40	1490086	80	78	100	100	100	100	100	106	110	107	101	97	95	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	1489355	72	82	99	99	99	99	99	70	86	82	78	84	82	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
42	70416	68	70	97	98	96	96	96	78	88	97	95	91	93	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
43	1352056	80	70	98	98	98	98	98	74	72	91	85	83	77	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
44	146495	64	66	99	99	99	99	99	60	66	64	60	62	60	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
45	1487453	80	78	100	100	100	100	100	90	88	88	90	88	84	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	1488429	68	66	100	100	100	100	100	66	62	65	67	69	71	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	14876991	68	68	100	100	100	100	100	68	74	74	70	72	78	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	1487981	60	64	100	100	100	100	100	64	66	70	68	72	74	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
49	1487784	80	82	98	98	100	100	99	66	92	88	84	90	86	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
50	1453207	80	78	100	100	100	100	100	106	110	107	101	97	95	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	1487275	74	84	99	99	99	99	99	72	88	85	81	87	85	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
52	388404	68	70	97	98	96	96	96	78	88	97	95	91	93	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
53	1470686	78	68	98	98	98	98	98	72	70	88	82	80	74	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
54	1546622	66	68	99	99	99	99	99	62	68	67	63	65	63	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
55	124223	82	80	100	100	100	100	100	92	90	91	93	91	87	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
56	1547539	66	64	100	100	100	100	100	64	60	62	64	66	68	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57	460648	68	68	100	100	100	100	100	68	74	74	70	72	78	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
58	1542271	62	66	100	100	100	100	100	66	68	73	71	75	77	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
59	1546637	80	82	98	98	100	100	99	66	92	88	84	90	86	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
60	150873	78	76	100	100	100	100	100	104	108	104	98	94	92	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	1548650	74	84	99	99	99	99	99	72	88	85	81	87	85	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
62	1548255	66	68	97	98	96	96	96	76	86	94	92	88	90	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
63	1552054	80	70	98	98	98	98	98	74	72	91	85	83	77	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
64	699111	66	68	99	99	99	99	99	62	68	67	63	65	63	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
65	1560893	82	80	100	100	100	100	100	92	90	91	93	91	87	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66	1600511	66	64	100	100	100	100	100	64	60	62	64	66	68	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
67	1600216	68	68	100	100	100	100	100	68	74	74	70	72	78	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
68	10884481	62	66	100	100	100	100	100	66	68	73	71	75	77	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
69	1598873	82	84	98	98	100	100	99	68	94	91	87	93	89	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
70	1600018	78	76	100	100	100	100	100	104	108	104	98	94	92	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sr. No	MRD	INTRAOP SYS BP BEFORE INDUCTION	INTRAOP SYS BP AFTER INDUCTION	SYS 5	SYS 10	SYS 15	SYS 20	SYS 25	SYS 30	SYS 35	SYS 40	SYS 45	SYS 50	SYS 55	SYS 60	SYS 65	SYS 70	SYS 75	SYS 80	SYS 85	SYS 90	SYS 95	SYS 100	SYS 105	SYS 110	SYS 115	SYS 120	INTRAOP DIA BP BEFORE INDUCTION	INTRAOP DIA BP AFTER INDUCTION	DIA 5	DIA 10
1	1424384	112	122	112	115	108	106	104	112	108	110	114	120	116	112	110	116	-	-	-	-	-	-	-	-	-	-	62	72	78	74
2	1421200	118	126	118	113	110	128	134	102	98	108	112	134	128	124	118	110	116	128	124	118	-	-	-	-	-	-	76	86	84	70
3	1429085	116	132	126	123	122	120	116	120	122	118	120	116	124	128	126	118	120	118	122	140	134	138	126	122	-	-	82	86	78	74
4	1430727	104	108	104	105	108	104	110	116	110	112	110	118	112	110	-	-	-	-	-	-	-	-	-	-	-	-	68	68	74	78
5	1410494	120	124	122	130	136	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	92	97	91
6	403637	110	114	106	113	102	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	64	70	72
7	1390453	116	118	120	117	122	120	122	118	110	114	110	112	114	-	-	-	-	-	-	-	-	-	-	-	-	-	58	60	60	58
8	1420155	122	118	126	123	120	116	110	114	110	108	110	112	116	118	-	-	-	-	-	-	-	-	-	-	-	-	72	68	68	70
9	1419848	138	148	144	152	148	140	138	136	130	132	130	122	134	130	128	130	-	-	-	-	-	-	-	-	-	-	88	96	97	95
10	1421899	128	144	138	130	120	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	84	91	73
11	1423824	112	122	108	115	108	106	104	110	108	110	116	120	116	112	110	114	-	-	-	-	-	-	-	-	-	-	66	70	74	74
12	1359976	118	126	118	113	110	128	134	102	98	108	112	134	128	124	118	110	116	128	124	118	-	-	-	-	-	-	76	86	84	70
13	1427591	116	134	128	126	124	120	116	120	122	118	120	114	124	128	126	118	120	118	122	140	134	138	126	122	-	-	84	88	81	77
14	1421244	144	154	148	134	138	140	142	134	130	136	132	136	130	138	-	-	-	-	-	-	-	-	-	-	-	-	88	90	89	83
15	1471089	110	112	114	107	106	110	106	108	110	108	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	68	68	66
16	150914	130	136	128	126	134	130	136	128	126	124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	88	83	75
17	1471755	134	130	132	136	134	130	132	138	130	134	128	120	124	-	-	-	-	-	-	-	-	-	-	-	-	-	70	78	73	81
18	1472285	142	144	138	136	132	136	130	134	130	128	130	130	136	128	-	-	-	-	-	-	-	-	-	-	-	-	84	80	91	83
19	1220663	138	148	144	152	150	144	138	136	134	136	130	132	128	130	136	134	-	-	-	-	-	-	-	-	-	-	84	88	83	85
20	1472835	128	132	126	127	124	118	120	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	72	78	72
21	1278967	128	134	128	132	128	124	126	132	130	122	128	128	122	124	120	126	-	-	-	-	-	-	-	-	-	-	78	74	81	73
22	1473346	118	128	120	116	112	128	134	102	98	108	112	132	128	124	118	110	116	128	124	118	-	-	-	-	-	-	78	88	87	73
23	1474002	116	132	126	123	122	120	116	120	122	118	120	116	124	128	126	118	120	118	122	140	134	138	126	122	-	-	82	86	78	74
24	1474298	124	130	126	128	120	124	120	126	120	122	120	126	122	120	-	-	-	-	-	-	-	-	-	-	-	-	72	78	77	81
25	99591	142	154	142	140	146	140	134	138	130	134	138	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	92	97	91
26	1477393	110	116	108	116	104	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	66	73	75
27	447175	136	142	140	138	134	130	132	130	128	124	120	120	124	-	-	-	-	-	-	-	-	-	-	-	-	-	70	72	73	81
28	1484759	122	118	126	123	120	116	110	114	110	108	110	112	116	118	-	-	-	-	-	-	-	-	-	-	-	-	72	68	68	70
29	1433725	128	128	122	123	126	130	128	126	120	122	124	124	134	130	128	130	-	-	-	-	-	-	-	-	-	-	66	62	64	62
30	14821941	128	130	128	127	118	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	78	70	70
31	1481650	112	122	112	115	108	106	104	112	108	110	114	120	116	112	110	116	-	-	-	-	-	-	-	-	-	-	62	72	78	74
32	1482066	118	128	120	116	112	128	134	102	98	108	112	132	128	124	118	110	116	128	124	118	-	-	-	-	-	-	78	88	87	73
33	1462588	116	132	126	123	122	120	116	120	122	118	120	116	124	128	126	118	120	118	122	140	134	138	126	122	-	-	82	86	78	74
34	1482019	104	108	104	105	108	104	110	116	110	112	110	118	112	110	-	-	-	-	-	-	-	-	-	-	-	-	68	68	74	78
35	1483718	120	122	120	127	134	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	90	94	88
36	1483745	110	114	106	113	102	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	64	70	72
37	329368	116	120	122	120	124	120	122	118	110	114	110	110	114	-	-	-	-	-	-	-	-	-	-	-	-	-	60	62	63	61
38	3783741	122	118	126	123	120	116	110	114	110	108	110	112	116	118	-	-	-	-	-	-	-	-	-	-	-	-	72	68	68	70
39	1489485	138	148	144	152	148	140	138	136	130	132	130	122	134	130	128	130	-	-	-	-	-	-	-	-	-	-	88	96	97	95
40	1490086	128	144	138	130	120	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	84	91	73
41	1489355	112	122	112	115	108	106	104	112	108	110	114	120	116	112	110	116	-	-	-	-	-	-	-	-	-	-	62	72	78	74
42	70416	118	128	120	116	112	128	134	102	98	108	112	132	128	124	118	110	116	128	124	118	-	-	-	-	-	-	78	88	87	73
43	1352056	116	134	128	126	124	120	116	120	122	118	120	114	124	128	126	118	120	118	122	140	134	138	126	122	-	-	84	88	81	77
44	146495	104	108	104	105	108	104	110	116	110	112	110	118	112	110	-	-	-	-	-	-	-	-	-	-	-	-	68	68	74	78
45	1487453	120	122	120	127	134	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	90	94	88
46	1488429	110	116	108	116	104	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	66	73	75
47	14876991	116	118	120	117	122	120	122	118	110	114	110	112	114	-	-	-	-	-	-	-	-	-	-	-	-	-	58	60	60	58
48	1487981	122	118	126	123	120	116	110	114	110	108	110	112	116	118	-	-	-	-	-	-	-	-	-	-	-	-	72	68	68	70
49	1487784	138	146	142	149	146	140	138	136	130	132	130	124	134	130	128	130	-	-	-	-	-	-	-	-	-	-	86	94	94	92
50	1453207	128	144	138	130	120	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	84	91	73
51	1487275	112	124	114	118	110	106	104	112	108	110	114	118	116	112	110	116	-	-	-	-	-	-	-	-	-	-	64	74	81	77
52	388404	118	128	120	116	112	128	134	102	98	108	112	132	128	124	118	110	116	128	124	118	-	-	-	-	-	-	78	88	87	73
53	1470686	116	132	126	123	122	120	116	120	122	118	120	116	124	128	126	118	120	118	122	140	134	138	126	122	-	-	82	86	78	74
54	1546622	104	110	106	108	110	104	110	116	110	112	110	116	112	110	-	-	-	-	-	-	-	-	-	-	-	-	70	70	77	81
55	124223	120	124	122	130	136	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	92	97	91
56	1547539	110	114	106	113	102	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	64	70	72
57	460648	116	118	120	117	122	120	122	118	110	114	110	112	114	-	-	-	-	-	-	-	-	-	-	-	-	-	58	60	60	58
58	1542271	122	120	128	126	122	116	110	114	110	108	110	110	116	118	-	-	-	-	-	-	-	-	-	-	-	-	74	70	71	73
59	1546637	138	146	142	149	146	140	138	136	130	132	130	124	134	130	128	130	-	-	-	-	-	-	-	-	-	-	86	94	94	92
60	150873	128	142	136	127	118	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	82	88	70
61	1548650	112	124	114	118	110	106	104	112	108	110	114	118	116	112	110	116	-	-	-	-	-	-	-	-	-	-	64	74	81	77
62	1548255	118	126	118	113	110	128	134	102	98	108	112	134	128	124	118	110	116	128	124	118	-	-	-	-	-	-	76	86	84	70
63	1552054	116	134	128	126	124	120	116	120	122	118	120	114	124	128	126	118	120	118	122	140	134	138	126	122	-	-	84	88	81	77
64	699111	104	110	106	108	110	104	110	116	110	112	110	116	112	110	-	-	-	-	-	-	-	-	-	-	-	-	70	70	77	81
65	1560893	120	124	122	130	136	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	92	97	91
66	1600511	110	114	106	113	102	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	64	70	72
67	1600216	116	118	120	117	122	120	122	118	110	114	110	112	114	-	-	-	-	-	-	-	-	-	-	-	-	-	58	60	60	58
68	10884481	122	120	128	126	122	116	110	114	110	108	110	110	116	118	-	-	-	-	-	-	-	-	-	-	-	-	74	70	71	73
69	1598873	138	148	144	152	148	140	138	136	130	132	130	122	134	130	128	130	-	-	-	-	-	-	-	-	-	-	88	96	97	95
70	1600018	128	142	136	127	118	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	82	88	70

Sr. No	MRD	DIA 15	DIA 20	DIA 25	DIA 30	DIA 35	DIA 40	DIA 45	DIA 50	DIA 55	DIA 60	DIA 65	DIA 70	DIA 75	DIA 80	DIA 85	DIA 90	DIA 95	DIA 100	DIA 105	DIA 110	DIA 115	DIA 120	INTRAOP SPO2 BEFORE INDUCTION	INTRAOP SPO2 AFTER INDUCTION	SPO2 5	SPO2 10	SPO2 15	SPO2 20	SPO2 25	SPO2 30	SPO2 35
1	1424384	72	68	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
2	1421200	68	64	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	99
3	1429085	72	70	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
4	1430727	74	68	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
5	1410494	101	97	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
6	403637	68	64	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
7	1390453	60	64	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
8	1420155	66	64	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
9	1419848	87	83	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
10	1421899	71	69	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
11	1423824	72	68	74	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
12	1359976	68	64	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	99
13	1427591	75	73	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
14	1421244	85	87	82	80	78	74	70	74	80	82	-	-	-	-	-	-	-	-	-	-	-	-	96	97	100	100	100	100	100	100	100
15	1471089	64	60	62	66	68	60	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
16	150914	81	77	74	70	72	74	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	98	99	98	100	99	100	100	100
17	1471755	73	75	76	74	70	72	76	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	99	99	97	100	100	98	98	99
18	1472285	89	87	88	82	86	80	82	88	80	82	-	-	-	-	-	-	-	-	-	-	-	-	97	100	98	97	100	100	99	100	98
19	1220663	87	83	84	82	88	86	82	80	80	84	82	84	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	97
20	1472835	68	68	64	68	70	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	97	98	98	99	99	98	100	98
21	1278967	77	81	76	72	74	80	78	72	70	72	76	70	-	-	-	-	-	-	-	-	-	-	98	97	98	98	98	99	99	99	98
22	1473346	71	67	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	100
23	1474002	72	70	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
24	1474298	77	71	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
25	99591	101	97	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
26	1477393	71	67	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
27	447175	73	77	76	74	70	72	76	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97	98	98	100	98	98	100	98	97
28	1484759	66	64	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
29	1433725	64	60	68	62	68	66	62	60	68	64	62	68	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
30	14821941	68	66	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	99	100	98	99	99	98	100	100
31	1481650	72	68	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
32	1482066	71	67	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	100
33	1462588	72	70	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
34	1482019	74	68	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
35	1483718	98	94	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
36	1483745	68	64	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
37	329368	63	67	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
38	3783741	66	64	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
39	1489485	87	83	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
40	1490086	71	69	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
41	1489355	72	68	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
42	70416	71	67	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	99
43	1352056	75	73	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
44	146495	74	68	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
45	1487453	98	94	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
46	1488429	71	67	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
47	14876991	60	64	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
48	1487981	66	64	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
49	1487784	84	80	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
50	1453207	71	69	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
51	1487275	75	71	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
52	388404	71	67	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	100
53	1470686	72	70	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
54	1546622	77	71	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
55	124223	101	97	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
56	1547539	68	64	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
57	460648	60	64	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
58	1542271	69	67	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
59	1546637	84	80	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
60	150873	68	66	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
61	1548650	75	71	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
62	1548255	68	64	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	99
63	1552054	75	73	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
64	699111	77	71	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
65	1560893	101	97	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
66	1600511	68	64	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
67	1600216	60	64	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
68	10884481	69	67	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
69	1598873	87	83	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
70	1600018	68	66	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100

Sr. No	MRD	SPO2 40	SPO2 45	SPO2 50	SPO2 55	SPO2 60	SPO2 65	SPO2 70	SPO2 75	SPO2 80	SPO2 85	SPO2 90	SPO2 95	SPO2 100	SPO2 105	SPO2 110	SPO2 115	SPO2 120	INTRAOP ETCO2 (mmHg) BEFORE INDUCTION	INTRAOP ETCO2 AFTER INDUCTION	ETCO2 5	ETCO2 10	ETCO2 15	ETCO2 20	ETCO2 25	ETCO2 30	ETCO2 35
1	1424384	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
2	1421200	98	98	98	98	98	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
3	1429085	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
4	1430727	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
5	1410494	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
6	403637	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
7	1390453	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
8	1420155	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
9	1419848	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
10	1421899	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
11	1423824	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	33	34	33	32	34	32	31
12	1359976	98	98	98	98	98	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
13	1427591	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
14	1421244	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
15	1471089	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
16	150914	100	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
17	1471755	98	99	99	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
18	1472285	100	99	98	100	99	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
19	1220663	100	98	99	99	97	99	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
20	1472835	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	34	33	32	32	31	32	31
21	1278967	98	100	100	98	98	100	99	-	-	-	-	-	-	-	-	-	-	16	32	34	33	32	31	34	32	32
22	1473346	100	100	100	100	100	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
23	1474002	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
24	1474298	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
25	99591	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	34	32	32	34	34	32	32
26	1477393	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
27	447175	97	98	98	98	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	32	34	32	32	33	32	32
28	1484759	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
29	1433725	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
30	14821941	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
31	1481650	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
32	1482066	100	100	100	100	100	100	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
33	1462588	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
34	1482019	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
35	1483718	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
36	1483745	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
37	329368	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
38	3783741	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
39	1489485	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
40	1490086	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
41	1489355	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
42	70416	98	98	98	98	98	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
43	1352056	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
44	146495	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
45	1487453	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
46	1488429	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
47	14876991	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
48	1487981	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
49	1487784	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
50	1453207	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
51	1487275	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
52	388404	100	100	100	100	100	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
53	1470686	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
54	1546622	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
55	124223	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
56	1547539	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
57	460648	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
58	1542271	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
59	1546637	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
60	150873	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
61	1548650	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
62	1548255	98	98	98	98	98	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
63	1552054	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
64	699111	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
65	1560893	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
66	1600511	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
67	1600216	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
68	10884481	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
69	1598873	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
70	1600018	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32

Sr. No	MRD	ETCO2 40	ETCO2 45	ETCO2 50	ETCO2 55	ETCO2 60	ETCO2 65	ETCO2 70	ETCO2 75	ETCO2 80	ETCO2 85	ETCO2 90	ETCO2 95	ETCO2 100	ETCO2 105	ETCO2 110	ETCO2 115	ETCO2 120	SURGICAL TIME (IN MINUTES)	ANAESTHESIA TIME (IN MINUTES)	RAAS ON OT (PREOP RAAS)	RAAS AFTER EXTUBATION 0 MIN	RAAS AFTER EXTUBATION 5MIN	RAAS AFTER EXTUBATION 10 MIN
1	1424384	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	55	70	4	3	3	4
2	1421200	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	75	90	4	3	3	3
3	1429085	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	95	110	4	4	4	-
4	1430727	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	4
5	1410494	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	5	5	4	-
6	403637	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	45	4	3	3	4
7	1390453	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	45	55	4	4	3	4
8	1420155	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	45	60	4	4	3	4
9	1419848	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	5	5	4	-
10	1421899	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	40	5	5	4	-
11	1423824	31	32	33	34	33	32	31	-	-	-	-	-	-	-	-	-	-	60	70	4	5	4	4
12	1359976	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	75	90	4	3	3	4
13	1427591	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	100	110	4	4	4	-
14	1421244	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	55	60	4	4	4	-
15	1471089	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	45	4	3	3	4
16	150914	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	5	4	4	-
17	1471755	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	45	55	4	4	4	-
18	1472285	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	50	60	5	4	5	-
19	1220663	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	4	4	-
20	1472835	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	40	4	5	4	4
21	1278967	34	32	32	33	34	32	31	-	-	-	-	-	-	-	-	-	-	65	70	5	4	4	-
22	1473346	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	83	90	4	4	4	-
23	1474002	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	95	110	4	3	3	4
24	1474298	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	55	60	5	6	4	-
25	99591	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	4	4	-
26	1477393	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	4	4	-
27	447175	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	50	55	4	4	4	-
28	1484759	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	4
29	1433725	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	55	70	4	3	3	4
30	14821941	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	40	4	3	3	4
31	1481650	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	3	3	4
32	1482066	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	80	90	4	4	4	-
33	1462588	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	95	110	3	3	3	4
34	1482019	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	4
35	1483718	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	45	4	3	4	-
36	1483745	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	45	4	3	3	4
37	329368	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	50	55	4	5	4	-
38	3783741	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	4
39	1489485	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	5	5	-
40	1490086	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	40	5	4	4	-
41	1489355	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	55	70	4	3	3	3
42	70416	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	85	90	5	4	4	-
43	1352056	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	100	110	4	4	4	-
44	146495	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	3
45	1487453	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	45	4	2	2	3
46	1488429	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	5	5	-
47	14876991	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	45	55	4	3	3	4
48	1487981	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	4
49	1487784	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	3	3	4
50	1453207	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	40	5	6	5	4
51	1487275	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	5	4	-
52	388404	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	80	90	4	5	4	-
53	1470686	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	95	110	4	3	3	4
54	1546622	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	55	60	4	4	4	-
55	124223	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	4	4	-
56	1547539	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	45	3	3	3	4
57	460648	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	40	55	4	3	3	4
58	1542271	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	55	60	4	4	4	-
59	1546637	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	3	3	4
60	150873	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	40	4	3	3	4
61	1548650	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	5	4	-
62	1548255	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	75	90	4	2	3	3
63	1552054	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	105	110	5	4	4	-
64	699111	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	55	60	4	5	4	-
65	1560893	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	4	4	-
66	1600511	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	45	4	3	3	4
67	1600216	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	45	55	4	3	3	4
68	10884481	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	6	5	-
69	1598873	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	4	4	-
70	1600018	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	40	4	3	3	4

Sr. No	MRD	RAAS AFTER EXTUBATION 15 MIN	RAAS IN PACU AT 60 MIN	TIME WHEN SEVOFLURANE STOPPED T0 (IN MINUTES)	T1(TIME FROM T0 TO EXTUBATION) IN MINUTES	T2 (TIME FROM T0 TO VERBAL RESPONSE) IN MINUTES	IN PACU 0	IN PACU 5	IN PACU 10	IN PACU 15	PACU AT 60	HR AFTER EXTUBATION TILL PACU 0	HR 5	HR 10	HR 15	HR 20	HR 25	HR 30	SYS BP AFTER EXTUBATION TILL PACU 0	SYS BP 5	SYS BP 10	SYS BP 15	SYS BP 20	SYS BP 25	SYS BP 30	DIA BP AFTER EXTUBATION TILL PACU 0	DIA BP 5
1	1424384	-	4	57	8	10	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
2	1421200	4	4	77	7	9	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
3	1429085	-	4	98	9	11	4	3	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
4	1430727	-	4	52	8	10	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
5	1410494	-	4	42	5	6	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
6	403637	-	4	32	9	12	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
7	1390453	-	4	47	8	10	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
8	1420155	-	4	47	8	10	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
9	1419848	-	4	63	5	6	5	5	5	5	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
10	1421899	-	4	37	4	5	6	6	6	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88
11	1423824	-	4	62	8	10	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
12	1359976	-	4	77	8	10	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
13	1427591	-	4	102	4	5	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
14	1421244	-	4	57	4	5	4	4	4	4	4	88	80	86	82	84	-	-	148	142	140	144	138	-	-	80	72
15	1471089	-	4	32	7	9	4	4	4	4	4	78	70	76	70	72	-	-	120	118	120	114	110	-	-	78	70
16	150914	-	4	43	4	6	4	4	4	4	4	74	76	78	74	76	-	-	140	138	136	136	134	-	-	92	90
17	1471755	-	4	47	5	6	4	4	4	4	4	88	80	82	80	84	-	-	132	130	134	138	136	-	-	80	88
18	1472285	-	4	54	5	6	4	4	4	4	4	80	84	78	70	74	-	-	138	138	130	136	130	-	-	78	78
19	1220663	-	4	67	3	5	4	4	4	4	4	112	118	110	99	98	-	-	150	144	140	140	138	-	-	98	98
20	1472835	-	4	34	8	10	4	4	4	4	4	88	82	84	82	81	-	-	134	130	132	128	124	-	-	78	74
21	1278967	-	4	67	4	5	5	5	4	4	4	94	92	91	84	88	-	-	134	136	128	122	130	-	-	88	84
22	1473346	-	4	87	5	7	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
23	1474002	-	4	97	8	10	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
24	1474298	-	4	57	4	5	4	4	4	4	4	88	80	78	74	74	-	-	128	126	128	122	120	-	-	80	78
25	99591	-	4	43	4	5	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	128	120	-	-	98	90
26	1477393	-	4	43	5	6	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
27	447175	-	4	53	5	7	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	128	126	-	-	80	78
28	1484759	-	4	53	8	10	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
29	1433725	-	4	57	8	10	4	4	4	4	4	84	88	84	80	78	-	-	134	138	130	138	130	-	-	78	70
30	14821941	-	4	33	9	11	4	4	4	4	4	87	88	80	82	84	-	-	138	134	136	120	118	-	-	78	76
31	1481650	-	4	37	8	11	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
32	1482066	-	5	83	4	5	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
33	1462588	-	4	97	8	10	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
34	1482019	-	4	53	8	11	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
35	1483718	-	4	33	5	7	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
36	1483745	-	4	37	8	10	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
37	329368	-	4	53	4	6	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
38	3783741	-	4	53	8	10	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
39	1489485	-	4	63	4	6	5	5	5	5	5	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
40	1490086	-	4	33	5	7	6	6	4	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88
41	1489355	4	4	57	12	15	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
42	70416	-	4	88	4	5	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
43	1352056	-	4	103	4	5	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
44	146495	4	4	53	10	13	4	4	4	4	3	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
45	1487453	4	4	33	10	13	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
46	1488429	-	4	43	3	5	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
47	14876991	-	4	47	8	10	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
48	1487981	-	4	53	8	10	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
49	1487784	-	4	63	9	11	4	4	4	4	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
50	1453207	-	4	37	5	7	6	6	6	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88
51	1487275	-	4	67	4	5	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
52	388404	-	4	87	4	5	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
53	1470686	-	4	97	8	10	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
54	1546622	-	4	57	3	5	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
55	124223	-	4	43	4	6	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
56	1547539	-	4	37	8	10	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
57	460648	-	4	43	8	11	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
58	1542271	-	4	57	5	7	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
59	1546637	-	4	63	8	10	4	3	3	3	3	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
60	150873	-	4	33	8	10	4	4	4	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88
61	1548650	-	4	68	4	5	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
62	1548255	4	4	77	10	12	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
63	1552054	-	4	108	4	5	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
64	699111	-	4	58	5	7	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
65	1560893	-	4	43	4	5	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
66	1600511	-	4	37	8	10	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
67	1600216	-	4	47	8	10	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
68	10884481	-	4	53	3	5	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
69	1598873	-	4	67	3	5	5	5	5	5	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
70	1600018	-	4	33	8	10	4	4	4	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88

Sr. No	MRD	DIA BP 10	DIA BP 15	DIA BP 20	DIA BP 25	DIA BP 30	SPO2 AFTER EXTUBATION TILL PACU 0	SPO2 5	SPO2 10	SPO2 15	SPO2 20	SPO2 25	SPO2 30	PACU HR 0	HR 5	HR 10	HR 15	HR 20	HR 25	HR 30	HR 35	HR 40	HR 45	HR 50	HR 55	HR 60	PACU SYS BP 0	SYS BP 5	SYS BP 10	SYS BP 15	SYS BP 20	SYS BP 25	SYS BP 30
1	1424384	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
2	1421200	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
3	1429085	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
4	1430727	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
5	1410494	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
6	403637	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
7	1390453	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
8	1420155	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
9	1419848	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
10	1421899	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
11	1423824	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
12	1359976	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
13	1427591	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
14	1421244	80	74	68	-	-	98	98	97	98	99	-	-	90	88	84	91	87	86	83	87	86	81	84	87	86	140	138	130	140	142	138	140
15	1471089	68	60	64	-	-	98	98	100	100	100	-	-	86	88	76	74	70	68	66	62	70	68	64	68	62	120	118	114	116	120	110	114
16	150914	88	90	92	-	-	100	97	100	97	98	-	-	84	86	82	86	86	85	90	85	84	87	87	84	87	118	116	114	112	110	114	116
17	1471755	86	84	80	-	-	100	100	99	100	100	-	-	70	78	76	79	70	74	78	75	76	72	78	73	76	110	112	110	120	116	114	120
18	1472285	74	72	70	-	-	100	98	98	99	100	-	-	88	80	86	85	84	84	80	82	86	84	68	70	68	118	116	120	116	118	110	106
19	1220663	90	90	88	-	-	98	99	99	99	98	-	-	99	94	90	94	94	96	92	88	88	84	80	78	78	140	140	138	144	142	138	134
20	1472835	74	70	68	-	-	100	97	98	97	98	-	-	85	80	78	76	70	71	70	64	68	70	72	69	68	124	126	130	128	120	122	120
21	1278967	78	88	80	-	-	98	99	99	99	99	-	-	98	97	96	98	94	90	88	87	88	90	86	88	84	134	136	132	128	134	128	126
22	1473346	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
23	1474002	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
24	1474298	80	70	72	-	-	98	100	100	99	98	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
25	99591	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
26	1477393	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
27	447175	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
28	1484759	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
29	1433725	70	72	74	-	-	98	99	100	100	100	-	-	78	70	84	78	74	78	72	70	72	74	70	78	80	144	140	138	144	142	138	136
30	14821941	74	70	68	-	-	100	98	99	98	100	-	-	88	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
31	1481650	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
32	1482066	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
33	1462588	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
34	1482019	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
35	1483718	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
36	1483745	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
37	329368	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
38	3783741	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
39	1489485	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
40	1490086	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
41	1489355	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
42	70416	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
43	1352056	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
44	146495	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
45	1487453	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
46	1488429	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
47	14876991	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
48	1487981	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
49	1487784	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
50	1453207	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
51	1487275	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
52	388404	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
53	1470686	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
54	1546622	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
55	124223	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
56	1547539	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
57	460648	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
58	1542271	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
59	1546637	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
60	150873	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
61	1548650	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
62	1548255	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
63	1552054	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
64	699111	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
65	1560893	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
66	1600511	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
67	1600216	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
68	10884481	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
69	1598873	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
70	1600018	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120

Sr. No	MRD	SYS BP 35	SYS BP 40	SYS BP 45	SYS BP 50	SYS BP 55	SYS BP 60	PACU DIA BP 0	DIA BP 5	DIA BP 10	DIA BP 15	DIA BP 20	DIA BP 25	DIA BP 30	DIA BP 35	DIA BP 40	DIA BP 45	DIA BP 50	DIA BP 55	DIA BP 60	PACU SPO2 0	SPO2 5	SPO2 10
1	1424384	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
2	1421200	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
3	1429085	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
4	1430727	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
5	1410494	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
6	403637	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
7	1390453	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
8	1420155	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
9	1419848	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
10	1421899	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
11	1423824	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
12	1359976	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
13	1427591	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
14	1421244	128	134	136	130	132	126	74	80	78	82	86	70	74	86	72	70	80	72	70	98	98	98
15	1471089	116	108	106	110	112	120	78	70	74	72	70	68	78	70	68	64	60	62	60	100	100	100
16	150914	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
17	1471755	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
18	1472285	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
19	1220663	132	132	128	124	126	128	88	84	82	80	88	82	80	86	80	82	88	80	82	100	98	97
20	1472835	118	124	112	116	122	126	70	72	68	70	68	72	80	70	68	66	70	74	72	98	98	100
21	1278967	128	134	126	122	128	128	86	88	84	84	82	84	80	78	82	74	76	80	82	100	99	98
22	1473346	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
23	1474002	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
24	1474298	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
25	99591	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
26	1477393	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
27	447175	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
28	1484759	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
29	1433725	130	132	128	124	126	120	80	84	82	80	88	82	80	86	80	78	76	70	72	100	100	100
30	14821941	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	98	97
31	1481650	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
32	1482066	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
33	1462588	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
34	1482019	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
35	1483718	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
36	1483745	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
37	329368	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
38	3783741	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
39	1489485	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
40	1490086	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
41	1489355	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
42	70416	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
43	1352056	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
44	146495	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
45	1487453	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
46	1488429	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
47	14876991	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
48	1487981	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
49	1487784	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
50	1453207	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
51	1487275	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
52	388404	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
53	1470686	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
54	1546622	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
55	124223	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
56	1547539	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
57	460648	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
58	1542271	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
59	1546637	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
60	150873	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
61	1548650	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
62	1548255	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
63	1552054	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
64	699111	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
65	1560893	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
66	1600511	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
67	1600216	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
68	10884481	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
69	1598873	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
70	1600018	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100

Sr. No	MRD	SPO2 15	SPO2 20	SPO2 25	SPO2 30	SPO2 35	SPO2 40	SPO2 45	SPO2 50	SPO2 55	SPO2 60	PACU VAS 0	VAS 5	VAS 10	VAS 15	VAS 20	VAS 25	VAS 30	VAS 35	VAS 40	VAS 45	VAS 50	VAS 55	VAS 60	RESCUE ANALGESIA 0	ANALGESIA 5
1	1424384	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	3	3	3	3	3	3	-	-
2	1421200	96	96	96	96	97	96	97	96	96	96	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-
3	1429085	98	98	99	99	99	98	98	97	98	98	3	3	3	3	4	4	2	2	2	2	2	2	2	-	-
4	1430727	98	98	98	98	98	98	98	98	-	98	3	3	3	2	2	2	2	2	2	2	2	2	2	-	-
5	1410494	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG	
6	403637	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
7	1390453	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	3	4	5	5	5	4	4	2	-	-
8	1420155	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	3	2	2	2	2	2	-	-
9	1419848	100	100	100	100	100	100	100	100	100	100	3	3	3	4	4	3	3	3	3	2	2	1	1	-	-
10	1421899	100	100	100	100	100	100	100	100	100	100	7	7	8	7	7	5	5	5	5	2	2	2	2	-	FENTANYL 25MCG
11	1423824	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
12	1359976	96	96	96	96	97	96	97	96	96	96	8	8	6	6	4	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
13	1427591	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
14	1421244	97	97	97	98	98	98	98	98	98	98	6	4	4	4	4	4	4	2	2	2	2	2	2	-	FENTANYL 25MCG
15	1471089	100	100	100	100	100	100	100	100	100	100	2	3	3	3	3	2	2	2	2	2	2	2	2	-	-
16	150914	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
17	1471755	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
18	1472285	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
19	1220663	98	99	99	99	99	100	98	98	100	100	5	5	4	4	4	4	4	2	2	2	2	1	1	-	FENTANYL 25MCG
20	1472835	99	98	99	98	98	98	99	100	100	98	3	3	3	3	3	3	3	2	2	2	2	2	2	-	-
21	1278967	99	99	98	99	100	99	99	98	99	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
22	1473346	96	96	96	96	97	96	97	96	96	96	5	4	4	4	4	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
23	1474002	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
24	1474298	98	98	98	98	98	98	98	98	-	98	6	4	4	4	4	4	4	2	2	2	2	2	2	-	FENTANYL 25MCG
25	99591	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG
26	1477393	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
27	447175	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
28	1484759	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
29	1433725	100	100	100	100	100	100	100	100	100	100	4	4	2	2	2	2	2	2	2	2	2	1	1	-	-
30	14821941	100	98	97	100	99	97	100	97	97	100	3	2	2	2	2	2	2	2	2	2	2	2	2	-	-
31	1481650	100	100	100	100	100	100	100	100	100	100	4	3	3	3	3	3	3	3	2	2	2	2	2	-	FENTANYL 25MCG
32	1482066	96	96	96	96	97	96	97	96	96	96	5	4	4	4	4	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
33	1462588	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
34	1482019	98	98	98	98	98	98	98	98	-	98	6	4	4	4	4	4	4	2	2	2	2	2	2	-	-
35	1483718	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG
36	1483745	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
37	329368	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
38	3783741	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
39	1489485	100	100	100	100	100	100	100	100	100	100	8	8	6	6	6	6	6	2	2	2	2	1	1	-	FENTANYL 25MCG
40	1490086	100	100	100	100	100	100	100	100	100	100	7	7	8	7	7	5	5	5	5	2	2	2	2	-	FENTANYL 25MCG
41	1489355	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
42	70416	96	96	96	96	97	96	97	96	96	96	5	4	4	4	4	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
43	1352056	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
44	146495	98	98	98	98	98	98	98	98	-	98	6	4	4	4	4	4	4	2	2	2	2	2	2	-	FENTANYL 25MCG
45	1487453	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG
46	1488429	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
47	14876991	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
48	1487981	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
49	1487784	100	100	100	100	100	100	100	100	100	100	8	8	6	6	6	6	6	2	2	2	2	1	1	-	FENTANYL 25MCG
50	1453207	100	100	100	100	100	100	100	100	100	100	7	7	8	7	7	5	5	5	5	2	2	2	2	-	FENTANYL 25MCG
51	1487275	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
52	388404	96	96	96	96	97	96	97	96	96	96	5	4	4	4	4	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
53	1470686	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
54	1546622	98	98	98	98	98	98	98	98	-	98	6	4	4	4	4	4	4	2	2	2	2	2	2	-	FENTANYL 25MCG
55	124223	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG
56	1547539	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
57	460648	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
58	1542271	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
59	1546637	100	100	100	100	100	100	100	100	100	100	8	8	6	6	6	6	6	2	2	2	2	1	1	-	FENTANYL 25MCG
60	150873	100	100	100	100	100	100	100	100	100	100	7	7	8	7	7	5	5	5	5	2	2	2	2	-	FENTANYL 25MCG
61	1548650	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
62	1548255	96	96	96	96	97	96	97	96	96	96	5	4	4	4	4	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
63	1552054	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
64	699111	98	98	98	98	98	98	98	98	-	98	6	4	4	4	4	4	4	2	2	2	2	2	2	-	FENTANYL 25MCG
65	1560893	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG
66	1600511	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	2	2	3	3	2	2	-	-
67	1600216	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
68	10884481	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	3	3	3	2	-	-
69	1598873	100	100	100	100	100	100	100	100	100	100	8	8	6	6	4	4	4	2	2	2	2	1	1	-	FENTANYL 25MCG
70	1600018	100	100	100	100	100	100	100	100	100	100	7	8	7	6	6	4	4	3	3	2	2	2	2	-	FENTANYL 25MCG

Sr. No	MRD	ANALGESIA 10	ANALGESIA 15	ANALGESIA 20	ANALGESIA 25	ANALGESIA 30	ANALGESIA 35	ANALGESIA 40	ANALGESIA 45	ANALGESIA 50	ANALGESIA 55	ANALGESIA 60	FIRST RESCUE ANALGESIA	TOTAL ANALGESIA FENTANYL MCG	TOTAL ANALGESIA TRAMADOL MG
1	1424384	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	1421200	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	1429085	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	1430727	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	1410494	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
6	403637	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	1390453	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	-	10	25	-
8	1420155	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	1419848	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	1421899	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
11	1423824	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
12	1359976	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
13	1427591	-	-	-	-	-	-	-	-	-	-	-	5	25	-
14	1421244	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	-
15	1471089	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	150914	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	-	40	25	-
17	1471755	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	25	25	-
18	1472285	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
19	1220663	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
20	1472835	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	1278967	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
22	1473346	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
23	1474002	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
24	1474298	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
25	99591	TRAMADOL 50MG	FENTANYL 25MCG	TRAMADOL 50MG	-	-	-	-	-	-	-	-	5	50	50
26	1477393	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	-	40	25	-
27	447175	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	25	25	-
28	1484759	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
29	1433725	-	FENTANYL 25MCG	TRAMADOL 50MG	-	-	-	-	-	-	-	-	15	25	50
30	14821941	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	1481650	-	-	-	-	-	-	-	-	-	-	-	5	25	-
32	1482066	-	-	-	-	-	-	-	-	-	-	-	5	25	-
33	1462588	-	-	-	-	-	-	-	-	-	-	-	5	25	-
34	1482019	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	1483718	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
36	1483745	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	-	40	25	-
37	329368	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	25	25	-
38	3783741	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
39	1489485	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
40	1490086	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
41	1489355	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
42	70416	-	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	5	25	50
43	1352056	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
44	146495	TRAMADOL 50MG	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	5	50	50
45	1487453	TRAMADOL 50MG	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	5	50	50
46	1488429	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	-	40	25	-
47	14876991	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	25	25	-
48	1487981	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
49	1487784	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
50	1453207	TRAMADOL 50MG	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	5	50	50
51	1487275	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
52	388404	-	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	5	25	50
53	1470686	-	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	25	50
54	1546622	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
55	124223	TRAMADOL 50MG	FENTANYL 25MCG	-	-	-	-	-	-	-	-	-	5	50	50
56	1547539	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	-	40	25	-
57	460648	-	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	30	25	-
58	1542271	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
59	1546637	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
60	150873	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
61	1548650	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
62	1548255	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
63	1552054	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
64	699111	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
65	1560893	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
66	1600511	-	-	-	-	-	-	-	-	-	-	-	30	50	50
67	1600216	-	-	-	-	FENTANYL 25MCG	TRAMADOL50MG	-	-	-	-	-	35	25	50
68	10884481	-	-	-	-	-	FENTANYL 25MCG	-	TRAMADOL 50MG	-	-	-	40	25	50
69	1598873	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
70	1600018	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50

Sr. No	MRD	NAME	AGE	GENDER	Group	HEIGHT (cms)	WEIGHT (kgs)	ASA	COMORB.	PREOP-HR (bpm) 0	HR 5	HR 10	HR 15	HR 20	PREOP-SYS BP (mmHg) 0	SYS BP 5	SYS BP 10	SYS BP 15	SYS BP 20	PREOP DIA BP (mmHg) 0	DIA BP 5	DIA BP 10
71	1585607	VS	56	M	N	171	72	2	HYPERTENSION	98	96	95	92	90	128	124	126	120	118	88	84	82
72	16001481	SK	38	F	N	166	88	1	OBESITY 1	84	86	82	80	78	128	118	124	116	114	88	84	74
73	220780	KK	49	M	D	167	66	2	HYPERTENSION	98	98	88	85	79	144	140	142	136	134	84	80	78
74	1594941	VD	31	M	N	163	72	1	-	64	62	64	60	58	110	116	106	102	104	68	70	68
75	1600216	I	34	F	N	162	82	1	-	94	92	98	94	90	124	122	120	124	118	84	82	80
76	1088448	MC	50	M	N	180	64	2	HYPERTENSION	88	85	84	80	78	118	114	114	108	110	70	70	66
77	1600018	NK	62	M	N	176	58	4	HYPERTENSION, DIABETIC	88	84	80	78	78	134	130	128	126	120	80	82	78
78	1585607	VS	56	F	D	163	79	2	HYPERTENSION	74	70	62	61	63	122	116	118	108	116	68	66	68
79	1600148	SK	38	M	N	180	79	1	-	66	64	68	72	66	144	142	138	136	140	90	88	92
80	813721	RS	38	M	D	175	78	1	-	106	104	94	103	105	124	122	118	126	118	78	70	74
81	1594941	VD	31	M	D	172	82	1	-	98	96	89	87	85	128	124	126	118	116	88	84	82
82	1426369	SS	57	F	N	168	68	3	HYPERTENSION, DIABETIC	84	86	82	80	78	128	118	124	116	114	88	84	74
83	139010	SR	48	M	D	190	72	2	DIABETIC	98	98	88	85	79	144	140	142	136	134	84	80	78
84	1601043	MK	43	M	N	182	64	1	-	64	62	64	60	58	110	116	106	102	104	68	70	68
85	1601133	NK	32	F	D	168	78	1	-	94	92	92	89	85	124	122	120	122	116	84	82	80
86	1599292	D	27	M	N	177	63	1	-	88	85	84	80	78	118	114	114	108	110	70	70	66
87	379293	PN	53	M	N	170	79	1	HYPERTENSION	88	84	80	78	78	134	130	128	126	120	80	82	78
88	1034541	K	35	F	N	158	73	1	RHEUMATOID ARTHRITIS	74	70	68	66	68	122	116	118	110	118	68	66	68
89	1601536	K	41	M	N	175	72	1	HYPERTENSION, HYPOTHYROID	66	64	68	72	66	144	142	138	136	140	90	88	92
90	1601537	BS	59	M	N	182	91	1	-	94	98	90	88	91	134	122	124	128	132	88	72	68
91	95693	BK	57	M	D	166	102	3	OBESITY 1,HYPOTHYROID	98	96	89	87	85	128	124	126	118	116	88	84	82
92	430731	M	39	F	N	152	80	2	-	84	86	82	80	78	128	118	124	116	114	88	84	74
93	1229580	V	49	M	D	180	61	1	-	98	98	88	85	79	144	140	142	136	134	84	80	78
94	1601424	JM	42	M	D	168	78	2	HYPERTENSION	64	62	58	55	53	110	116	106	100	102	68	70	68
95	1602312	VD	50	F	N	165	78	1	-	94	92	98	94	90	124	122	120	124	118	84	82	80
96	157205	LH	36	M	D	158	80	1	-	88	85	78	75	73	118	114	114	106	108	70	70	66
97	1602350	RS	53	M	N	173	78	2	HYPERTENSION	88	84	80	78	78	134	130	128	126	120	80	82	78
98	1501146	RB	47	F	N	160	52	1	-	74	70	68	66	68	122	116	118	110	118	68	66	68
99	60769	RKV	42	M	D	173	64	2	DIABETIC	66	64	62	67	61	144	142	138	134	138	90	88	92
100	159005	PK	26	M	N	165	87	1	-	106	104	100	108	110	124	122	118	128	120	78	70	74
101	1603672	GK	44	M	D	167	82	3	HYPERTENSION, DIABETIC	98	96	89	87	85	128	124	126	118	116	88	84	82
102	1588122	RB	34	F	N	166	68	1	-	84	86	82	80	78	128	118	124	116	114	88	84	74
103	1602972	A	44	M	N	174	72	1	-	98	98	94	90	84	144	140	142	138	136	84	80	78
104	1662535	SG	47	M	D	175	64	1	HYPERTENSION	64	62	58	55	53	110	116	106	100	102	68	70	68
105	1604456	SK	72	F	N	162	78	1	-	94	92	98	94	90	124	122	120	124	118	84	82	80
106	813789	NS	54	M	N	172	63	3	HYPERTENSION, HYPOTHYROID	88	85	84	80	78	118	114	114	108	110	70	70	66
107	1339458	P	62	M	N	165	79	3	HYPERTENSION, DIABETIC	88	84	80	78	78	134	130	128	126	120	80	82	78
108	1605087	SS	59	F	N	174	73	3	HYPERTENSION, DIABETIC	74	70	68	66	68	122	116	118	110	118	68	66	68
109	304123	RC	51	M	N	165	72	3	HYPERTENSION, DIABETIC	66	64	68	72	66	144	142	138	136	140	90	88	92
110	1604130	R	58	M	D	178	80	2	HYPERTENSION	106	104	94	103	105	124	122	118	126	118	78	70	74
111	1606272	KK	43	M	N	180	78	2	HYPERTENSION	98	96	95	92	90	128	124	126	120	118	88	84	82
112	1605827	MS	59	F	D	168	60	2	DIABETIC	84	86	76	75	73	128	118	124	114	112	88	84	74
113	1563478	MD	42	M	D	174	78	2	HYPERTENSION	98	98	88	85	79	144	140	142	136	134	84	80	78
114	1605677	DS	60	M	D	167	79	3	HYPERTENSION, DIABETIC	64	62	58	55	53	110	116	106	100	102	68	70	68
115	1603747	SK	30	F	D	170	78	1	-	94	92	92	89	85	124	122	120	122	116	84	82	80
116	1594615	GK	45	M	D	168	50	2	HYPERTENSION	88	85	78	75	73	118	114	114	106	108	70	70	66
117	1606638	VK	67	M	D	174	64	1	-	88	84	74	73	73	134	130	128	124	118	80	82	78
118	1606991	RG	52	F	D	165	89	2	HYPERTENSION	74	70	62	61	63	122	116	118	108	116	68	66	68
119	1606157	GS	30	M	D	169	81	1	-	66	64	62	67	61	144	142	138	134	138	90	88	92
120	1562306	MK	45	M	D	175	90	1	-	106	104	94	103	105	124	122	118	126	118	78	70	74
121	1606559	NK	24	M	D	173	72	1	-	98	96	89	87	85	128	124	126	118	116	88	84	82
122	1606752	RK	52	F	D	166	64	2	HYPERTENSION	84	86	76	75	73	128	118	124	114	112	88	84	74
123	1580119	PP	40	M	D	176	78	1	-	98	98	88	85	79	144	140	142	136	134	84	80	78
124	1609746	AK	47	M	N	175	89	1	-	64	62	64	60	58	110	116	106	102	104	68	70	68
125	138373	JS	54	F	D	165	81	2	HYPERTENSION	94	92	92	89	85	124	122	120	122	116	84	82	80
126	1609744	ST	32	M	D	177	72	1	-	88	85	78	75	73	118	114	114	106	108	70	70	66
127	1609693	BS	41	M	D	164	64	1	-	88	84	74	73	73	134	130	128	124	118	80	82	78
128	1609910	RK	50	F	N	168	77	2	DIABETIC	74	70	68	66	68	122	116	118	110	118	68	66	68
129	1610486	N	63	M	D	173	77	3	HYPERTENSION, DIABETIC,OBESE 2	66	64	62	67	61	144	142	138	134	138	90	88	92
130	1607807	DK	43	M	N	170	72	2	DIABETIC	106	104	100	108	110	124	122	118	128	120	78	70	74
131	1233424	AS	50	M	N	170	75	2	HYPOTHYROID	98	96	95	92	90	128	124	126	120	118	88	84	82
132	1592228	AS	57	F	N	167	81	3	HYPERTENSION, DIABETIC	84	86	82	80	78	128	118	124	116	114	88	84	74
133	1611174	R	24	M	N	173	77	1	-	98	98	94	90	84	144	140	142	138	136	84	80	78
134	1612035	MH	57	M	N	172	86	2	DIABETIC	64	62	64	60	58	110	116	106	102	104	68	70	68
135	1284828	GL	33	F	D	162	69	1	-	94	92	92	89	85	124	122	120	122	116	84	82	80
136	802828	AS	36	M	D	180	88	1	-	88	85	78	75	73	118	114	114	106	108	70	70	66
137	1612037	SK	42	M	D	171	81	2	DIABETIC	88	84	74	73	73	134	130	128	124	118	80	82	78
138	781593	KK	37	F	D	158	61	1	-	74	70	62	61	63	122	116	118	108	116	68	66	68
139	1613083	RA	45	M	N	174	82	2	HYPERTENSION	66	64	68	72	66	144	142	138	136	140	90	88	92
140	161367	T	24	M	N	162	68	1	-	110	104	108	101	98	124	118	120	126	120	78	77	70

Sr. No	MRD	DIA BP 15	DIA BP 20	PREOP SPO2 0	SPO2 5	SPO2 10	SPO2 15	SPO2 20	INTRAOP HR BEFORE INDUCTION	INTRAOP HR AFTER INDUCTION	HR 5	HR 10	HR 15	HR 20	HR 25	HR 30	HR 35	HR 40	HR 45	HR 50	HR 55	HR 60	HR 65	HR 70	HR 75	HR 80	HR 85	HR 90	HR 95	HR 100	HR 105	HR 110	HR 115	HR 120
71	1585607	74	84	99	99	99	99	99	72	88	85	81	87	85	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
72	16001481	68	70	97	98	96	96	96	78	88	97	95	91	93	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
73	220780	78	68	98	98	98	98	98	72	70	88	82	80	74	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
74	1594941	66	68	99	99	99	99	99	62	68	67	63	65	63	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
75	1600216	82	80	100	100	100	100	100	92	90	91	93	91	87	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
76	1088448	68	66	100	100	100	100	100	66	62	65	67	69	71	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
77	1600018	70	70	100	100	100	100	100	70	76	77	73	75	81	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
78	1585607	60	64	100	100	100	100	100	64	66	70	68	72	74	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
79	1600148	82	84	98	98	100	100	99	68	94	91	87	93	89	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
80	813721	78	76	100	100	100	100	100	104	108	104	98	94	92	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
81	1594941	72	82	99	99	99	99	99	70	86	82	78	84	82	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
82	1426369	68	70	97	98	96	96	96	78	88	97	95	91	93	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
83	139010	78	68	98	98	98	98	98	72	70	88	82	80	74	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
84	1601043	66	68	99	99	99	99	99	62	68	67	63	65	63	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
85	1601133	80	78	100	100	100	100	100	90	88	88	90	88	84	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
86	1599292	68	66	100	100	100	100	100	66	62	65	67	69	71	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
87	379293	70	70	100	100	100	100	100	70	76	77	73	75	81	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
88	1034541	62	66	100	100	100	100	100	66	68	73	71	75	77	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
89	1601536	82	84	98	98	100	100	99	68	94	91	87	93	89	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
90	1601537	80	76	98	97	100	98	98	98	92	91	81	73	81	72	75	80	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	95693	72	82	99	99	99	99	99	70	86	82	78	84	82	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
92	430731	68	70	97	98	96	96	96	78	88	97	95	91	93	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
93	1229580	78	68	98	98	98	98	98	72	70	88	82	80	74	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
94	1601424	64	66	99	99	99	99	99	60	66	64	60	62	60	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
95	1602312	82	80	100	100	100	100	100	92	90	91	93	91	87	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96	157205	66	64	100	100	100	100	100	64	60	62	64	66	68	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
97	1602350	70	70	100	100	100	100	100	70	76	77	73	75	81	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98	1501146	62	66	100	100	100	100	100	66	68	73	71	75	77	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
99	60769	80	82	98	98	100	100	99	66	92	88	84	90	86	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
100	159005	80	78	100	100	100	100	100	106	110	107	101	97	95	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
101	1603672	72	82	99	99	99	99	99	70	86	82	78	84	82	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
102	1588122	68	70	97	98	96	96	96	78	88	97	95	91	93	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
103	1602972	80	70	98	98	98	98	98	74	72	91	85	83	77	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
104	1662535	64	66	99	99	99	99	99	60	66	64	60	62	60	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
105	1604456	82	80	100	100	100	100	100	92	90	91	93	91	87	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
106	813789	68	66	100	100	100	100	100	66	62	65	67	69	71	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
107	1339458	70	70	100	100	100	100	100	70	76	77	73	75	81	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108	1605087	62	66	100	100	100	100	100	66	68	73	71	75	77	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
109	304123	82	84	98	98	100	100	99	68	94	91	87	93	89	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
110	1604130	78	76	100	100	100	100	100	104	108	104	98	94	92	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111	1606272	74	84	99	99	99	99	99	72	88	85	81	87	85	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
112	1605827	66	68	97	98	96	96	96	76	86	94	92	88	90	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
113	1563478	78	68	98	98	98	98	98	72	70	88	82	80	74	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
114	1605677	64	66	99	99	99	99	99	60	66	64	60	62	60	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
115	1603747	80	78	100	100	100	100	100	90	88	88	90	88	84	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
116	1594615	66	64	100	100	100	100	100	64	60	62	64	66	68	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
117	1606638	68	68	100	100	100	100	100	68	74	74	70	72	78	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
118	1606991	60	64	100	100	100	100	100	64	66	70	68	72	74	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
119	1606157	80	82	98	98	100	100	99	66	92	88	84	90	86	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
120	1562306	78	76	100	100	100	100	100	104	108	104	98	94	92	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
121	1606559	72	82	99	99	99	99	99	70	86	82	78	84	82	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
122	1606752	66	68	97	98	96	96	96	76	86	94	92	88	90	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
123	1580119	78	68	98	98	98	98	98	72	70	88	82	80	74	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
124	1609746	66	68	99	99	99	99	99	62	68	67	63	65	63	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
125	138373	80	78	100	100	100	100	100	90	88	88	90	88	84	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
126	1609744	66	64	100	100	100	100	100	64	60	62	64	66	68	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
127	1609693	68	68	100	100	100	100	100	68	74	74	70	72	78	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
128	1609910	62	66	100	100	100	100	100	66	68	73	71	75	77	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
129	1610486	80	82	98	98	100	100	99	66	92	88	84	90	86	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
130	1607807	80	78	100	100	100	100	100	106	110	107	101	97	95	96	88	84	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
131	1233424	74	84	99	99	99	99	99	72	88	85	81	87	85	82	84	78	80	82	74	72	76	74	78	-	-	-	-	-	-	-	-	-	-
132	1592228	68	70	97	98	96	96	96	78	88	97	95	91	93	84	78	72	80	82	78	82	80	84	82	80	78	74	74	-	-	-	-	-	-
133	1611174	80	70	98	98	98	98	98	74	72	91	85	83	77	72	74	76	78	88	86	84	76	82	94	98	94	104	110	116	102	98	88	-	-
134	1612035	66	68	99	99	99	99	99	62	68	67	63	65	63	62	64	62	60	64	66	62	66	-	-	-	-	-	-	-	-	-	-	-	-
135	1284828	80	78	100	100	100	100	100	90	88	88	90	88	84	82	88	90	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
136	802828	66	64	100	100	100	100	100	64	60	62	64	66	68	68	68	66	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
137	1612037	68	68	100	100	100	100	100	68	74	74	70	72	78	80	72	74	76	70	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
138	781593	60	64	100	100	100	100	100	64	66	70	68	72	74	70	68	66	64	62	66	68	70	-	-	-	-	-	-	-	-	-	-	-	-
139	1613083	82	84	98	98	100	100	99	68	94	91	87	93	89	82	80	76	74	72	76	70	68	66	70	-	-	-	-	-	-	-	-	-	-
140	161367	72	76	100	100	100	100	100	104	100	101	102	93	91	86	74	84	82	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sr. No	MRD	INTRAOP SYS BP BEFORE INDUCTION	INTRAOP SYS BP AFTER INDUCTION	SYS 5	SYS 10	SYS 15	SYS 20	SYS 25	SYS 30	SYS 35	SYS 40	SYS 45	SYS 50	SYS 55	SYS 60	SYS 65	SYS 70	SYS 75	SYS 80	SYS 85	SYS 90	SYS 95	SYS 100	SYS 105	SYS 110	SYS 115	SYS 120	INTRAOP DIA BP BEFORE INDUCTION	INTRAOP DIA BP AFTER INDUCTION	DIA 5	DIA 10
71	1585607	112	124	114	118	110	106	104	112	108	110	114	118	116	112	110	116	-	-	-	-	-	-	-	-	-	-	64	74	81	77
72	16001481	118	128	120	116	112	128	134	102	98	108	112	132	128	124	118	110	116	128	124	118	-	-	-	-	-	-	78	88	87	73
73	220780	116	132	126	123	122	120	116	120	122	118	120	116	124	128	126	118	120	118	122	140	134	138	126	122	-	-	82	86	78	74
74	1594941	104	110	106	108	110	104	110	116	110	112	110	116	112	110	-	-	-	-	-	-	-	-	-	-	-	-	70	70	77	81
75	1600216	120	124	122	130	136	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	92	97	91
76	1088448	110	116	108	116	104	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	66	73	75
77	1600018	116	120	122	120	124	120	122	118	110	114	110	110	114	-	-	-	-	-	-	-	-	-	-	-	-	-	60	62	63	61
78	1585607	122	118	126	123	120	116	110	114	110	108	110	112	116	118	-	-	-	-	-	-	-	-	-	-	-	-	72	68	68	70
79	1600148	138	148	144	152	148	140	138	136	130	132	130	122	134	130	128	130	-	-	-	-	-	-	-	-	-	-	88	96	97	95
80	813721	128	142	136	127	118	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	82	88	70
81	1594941	112	122	112	115	108	106	104	112	108	110	114	120	116	112	110	116	-	-	-	-	-	-	-	-	-	-	62	72	78	74
82	1426369	118	128	120	116	112	128	134	102	98	108	112	132	128	124	118	110	116	128	124	118	-	-	-	-	-	-	78	88	87	73
83	139010	116	132	126	123	122	120	116	120	122	118	120	116	124	128	126	118	120	118	122	140	134	138	126	122	-	-	82	86	78	74
84	1601043	104	110	106	108	110	104	110	116	110	112	110	116	112	110	-	-	-	-	-	-	-	-	-	-	-	-	70	70	77	81
85	1601133	120	122	120	127	134	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	90	94	88
86	1599292	110	116	108	116	104	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	66	73	75
87	379293	116	120	122	120	124	120	122	118	110	114	110	110	114	-	-	-	-	-	-	-	-	-	-	-	-	-	60	62	63	61
88	1034541	122	120	128	126	122	116	110	114	110	108	110	110	116	118	-	-	-	-	-	-	-	-	-	-	-	-	74	70	71	73
89	1601536	138	148	144	152	148	140	138	136	130	132	130	122	134	130	128	130	-	-	-	-	-	-	-	-	-	-	88	96	97	95
90	1601537	128	144	130	122	128	130	138	124	128	132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	84	85	81
91	95693	112	122	112	115	108	106	104	112	108	110	114	120	116	112	110	116	-	-	-	-	-	-	-	-	-	-	62	72	78	74
92	430731	118	128	120	116	112	128	134	102	98	108	112	132	128	124	118	110	116	128	124	118	-	-	-	-	-	-	78	88	87	73
93	1229580	116	132	126	123	122	120	116	120	122	118	120	116	124	128	126	118	120	118	122	140	134	138	126	122	-	-	82	86	78	74
94	1601424	104	108	104	105	108	104	110	116	110	112	110	118	112	110	-	-	-	-	-	-	-	-	-	-	-	-	68	68	74	78
95	1602312	120	124	122	130	136	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	92	97	91
96	157205	110	114	106	113	102	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	64	70	72
97	1602350	116	120	122	120	124	120	122	118	110	114	110	110	114	-	-	-	-	-	-	-	-	-	-	-	-	-	60	62	63	61
98	1501146	122	120	128	126	122	116	110	114	110	108	110	110	116	118	-	-	-	-	-	-	-	-	-	-	-	-	74	70	71	73
99	60769	138	146	142	149	146	140	138	136	130	132	130	124	134	130	128	130	-	-	-	-	-	-	-	-	-	-	86	94	94	92
100	159005	128	144	138	130	120	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	84	91	73
101	1603672	112	122	112	115	108	106	104	112	108	110	114	120	116	112	110	116	-	-	-	-	-	-	-	-	-	-	62	72	78	74
102	1588122	118	128	120	116	112	128	134	102	98	108	112	132	128	124	118	110	116	128	124	118	-	-	-	-	-	-	78	88	87	73
103	1602972	116	134	128	126	124	120	116	120	122	118	120	114	124	128	126	118	120	118	122	140	134	138	126	122	-	-	84	88	81	77
104	1662535	104	108	104	105	108	104	110	116	110	112	110	118	112	110	-	-	-	-	-	-	-	-	-	-	-	-	68	68	74	78
105	1604456	120	124	122	130	136	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	92	97	91
106	813789	110	116	108	116	104	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	66	73	75
107	1339458	116	120	122	120	124	120	122	118	110	114	110	110	114	-	-	-	-	-	-	-	-	-	-	-	-	-	60	62	63	61
108	1605087	122	120	128	126	122	116	110	114	110	108	110	110	116	118	-	-	-	-	-	-	-	-	-	-	-	-	74	70	71	73
109	304123	138	148	144	152	148	140	138	136	130	132	130	122	134	130	128	130	-	-	-	-	-	-	-	-	-	-	88	96	97	95
110	1604130	128	142	136	127	118	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	82	88	70
111	1606272	112	124	114	118	110	106	104	112	108	110	114	118	116	112	110	116	-	-	-	-	-	-	-	-	-	-	64	74	81	77
112	1605827	118	126	118	113	110	128	134	102	98	108	112	134	128	124	118	110	116	128	124	118	-	-	-	-	-	-	76	86	84	70
113	1563478	116	132	126	123	122	120	116	120	122	118	120	116	124	128	126	118	120	118	122	140	134	138	126	122	-	-	82	86	78	74
114	1605677	104	108	104	105	108	104	110	116	110	112	110	118	112	110	-	-	-	-	-	-	-	-	-	-	-	-	68	68	74	78
115	1603747	120	122	120	127	134	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	90	94	88
116	1594615	110	114	106	113	102	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	64	70	72
117	1606638	116	118	120	117	122	120	122	118	110	114	110	112	114	-	-	-	-	-	-	-	-	-	-	-	-	-	58	60	60	58
118	1606991	122	118	126	123	120	116	110	114	110	108	110	112	116	118	-	-	-	-	-	-	-	-	-	-	-	-	72	68	68	70
119	1606157	138	146	142	149	146	140	138	136	130	132	130	124	134	130	128	130	-	-	-	-	-	-	-	-	-	-	86	94	94	92
120	1562306	128	142	136	127	118	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	82	88	70
121	1606559	112	122	112	115	108	106	104	112	108	110	114	120	116	112	110	116	-	-	-	-	-	-	-	-	-	-	62	72	78	74
122	1606752	118	126	118	113	110	128	134	102	98	108	112	134	128	124	118	110	116	128	124	118	-	-	-	-	-	-	76	86	84	70
123	1580119	116	132	126	123	122	120	116	120	122	118	120	116	124	128	126	118	120	118	122	140	134	138	126	122	-	-	82	86	78	74
124	1609746	104	110	106	108	110	104	110	116	110	112	110	116	112	110	-	-	-	-	-	-	-	-	-	-	-	-	70	70	77	81
125	138373	120	122	120	127	134	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	90	94	88
126	1609744	110	114	106	113	102	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	64	70	72
127	1609693	116	118	120	117	122	120	122	118	110	114	110	112	114	-	-	-	-	-	-	-	-	-	-	-	-	-	58	60	60	58
128	1609910	122	120	128	126	122	116	110	114	110	108	110	110	116	118	-	-	-	-	-	-	-	-	-	-	-	-	74	70	71	73
129	1610486	138	146	142	149	146	140	138	136	130	132	130	124	134	130	128	130	-	-	-	-	-	-	-	-	-	-	86	94	94	92
130	1607807	128	144	138	130	120	118	112	124	120	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	84	91	73
131	1233424	112	124	114	118	110	106	104	112	108	110	114	118	116	112	110	116	-	-	-	-	-	-	-	-	-	-	64	74	81	77
132	1592228	118	128	120	116	112	128	134	102	98	108	112	132	128	124	118	110	116	128	124	118	-	-	-	-	-	-	78	88	87	73
133	1611174	116	134	128	126	124	120	116	120	122	118	120	114	124	128	126	118	120	118	122	140	134	138	126	122	-	-	84	88	81	77
134	1612035	104	110	106	108	110	104	110	116	110	112	110	116	112	110	-	-	-	-	-	-	-	-	-	-	-	-	70	70	77	81
135	1284828	120	122	120	127	134	140	132	128	120	122	118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	90	94	88
136	802828	110	114	106	113	102	100	106	110	108	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	64	70	72
137	1612037	116	118	120	117	122	120	122	118	110	114	110	112	114	-	-	-	-	-	-	-	-	-	-	-	-	-	58	60	60	58
138	781593	122	118	126	123	120	116	110	114	110	108	110	112	116	118	-	-	-	-	-	-	-	-	-	-	-	-	72	68	68	70
139	1613083	138	148	144	152	148	140	138	136	130	132	130	122	134	130	128	130	-	-	-	-	-	-	-	-	-	-	88	96	97	95
140	161367	128	144	134	130	118	120	112	124	120	118	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	82	83	81

Sr. No	MRD	DIA 15	DIA 20	DIA 25	DIA 30	DIA 35	DIA 40	DIA 45	DIA 50	DIA 55	DIA 60	DIA 65	DIA 70	DIA 75	DIA 80	DIA 85	DIA 90	DIA 95	DIA 100	DIA 105	DIA 110	DIA 115	DIA 120	INTRAOP SPO2 BEFORE INDUCTION	INTRAOP SPO2 AFTER INDUCTION	SPO2 5	SPO2 10	SPO2 15	SPO2 20	SPO2 25	SPO2 30	SPO2 35
71	1585607	75	71	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
72	16001481	71	67	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	99
73	220780	72	70	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
74	1594941	77	71	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
75	1600216	101	97	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
76	1088448	71	67	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
77	1600018	63	67	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
78	1585607	66	64	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
79	1600148	87	83	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
80	813721	68	66	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
81	1594941	72	68	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
82	1426369	71	67	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	100
83	139010	72	70	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
84	1601043	77	71	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
85	1601133	98	94	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
86	1599292	71	67	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
87	379293	63	67	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
88	1034541	69	67	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
89	1601536	87	83	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
90	1601537	73	75	70	68	70	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	100	98	99	100	99	100	98	100
91	95693	72	68	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
92	430731	71	67	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	99
93	1229580	72	70	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
94	1601424	74	68	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
95	1602312	101	97	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
96	157205	68	64	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
97	1602350	63	67	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
98	1501146	69	67	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
99	60769	84	80	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
100	159005	71	69	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
101	1603672	72	68	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
102	1588122	71	67	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	100
103	1602972	75	73	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
104	1662535	74	68	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
105	1604456	101	97	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
106	813789	71	67	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
107	1339458	63	67	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
108	1605087	69	67	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
109	304123	87	83	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
110	1604130	68	66	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
111	1606272	75	71	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
112	1605827	68	64	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	99
113	1563478	72	70	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
114	1605677	74	68	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
115	1603747	98	94	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
116	1594615	68	64	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
117	1606638	60	64	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
118	1606991	66	64	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
119	1606157	84	80	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
120	1562306	68	66	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
121	1606559	72	68	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
122	1606752	68	64	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	99
123	1580119	72	70	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
124	1609746	77	71	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
125	138373	98	94	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
126	1609744	68	64	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
127	1609693	60	64	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
128	1609910	69	67	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
129	1610486	84	80	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
130	1607807	71	69	60	64	70	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
131	1233424	75	71	70	72	74	80	78	72	70	72	64	70	-	-	-	-	-	-	-	-	-	-	100	100	98	98	98	99	99	99	100
132	1592228	71	67	70	68	58	64	74	78	84	88	76	72	68	70	66	72	-	-	-	-	-	-	96	98	98	98	98	98	100	100	99
133	1611174	75	73	74	72	70	78	80	82	78	80	78	76	80	84	86	90	94	92	88	84	-	-	98	98	100	100	100	100	100	100	100
134	1612035	77	71	70	74	72	70	68	70	72	70	-	-	-	-	-	-	-	-	-	-	-	-	99	99	99	99	99	100	100	100	100
135	1284828	98	94	92	86	88	80	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
136	802828	68	64	64	60	62	64	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
137	1612037	60	64	66	64	60	62	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
138	781593	66	64	68	72	66	60	62	58	60	62	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100
139	1613083	87	83	78	82	88	86	82	80	78	84	70	78	-	-	-	-	-	-	-	-	-	-	98	98	100	100	100	100	100	100	100
140	161367	71	73	72	64	70	68	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	100

Sr. No	MRD	SPO2 40	SPO2 45	SPO2 50	SPO2 55	SPO2 60	SPO2 65	SPO2 70	SPO2 75	SPO2 80	SPO2 85	SPO2 90	SPO2 95	SPO2 100	SPO2 105	SPO2 110	SPO2 115	SPO2 120	INTRAOP ETCO2 (mmHg) BEFORE INDUCTION	INTRAOP ETCO2 AFTER INDUCTION	ETCO2 5	ETCO2 10	ETCO2 15	ETCO2 20	ETCO2 25	ETCO2 30	ETCO2 35
71	1585607	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
72	16001481	98	98	98	98	98	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
73	220780	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
74	1594941	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
75	1600216	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
76	1088448	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
77	1600018	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
78	1585607	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
79	1600148	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
80	813721	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
81	1594941	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
82	1426369	100	100	100	100	100	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
83	139010	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
84	1601043	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
85	1601133	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
86	1599292	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
87	379293	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
88	1034541	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
89	1601536	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
90	1601537	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	34	36	31	30	32	30	32	31
91	95693	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
92	430731	98	98	98	98	98	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
93	1229580	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
94	1601424	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
95	1602312	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
96	157205	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
97	1602350	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
98	1501146	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
99	60769	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
100	159005	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
101	1603672	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
102	1588122	100	100	100	100	100	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
103	1602972	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
104	1662535	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
105	1604456	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
106	813789	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
107	1339458	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
108	1605087	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
109	304123	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
110	1604130	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
111	1606272	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
112	1605827	98	98	98	98	98	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
113	1563478	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
114	1605677	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
115	1603747	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
116	1594615	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
117	1606638	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
118	1606991	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
119	1606157	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
120	1562306	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
121	1606559	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
122	1606752	98	98	98	98	98	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
123	1580119	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
124	1609746	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
125	138373	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
126	1609744	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
127	1609693	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
128	1609910	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
129	1610486	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
130	1607807	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	36	34	34	34	32	32	32
131	1233424	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	16	32	34	34	34	34	34	32	32
132	1592228	98	98	98	98	98	98	98	98	98	98	98	-	-	-	-	-	-	12	34	36	38	36	34	32	34	30
133	1611174	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	16	32	34	34	34	32	34	32	34
134	1612035	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	34	36	34	34	32	32	34
135	1284828	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	34	31	32	32	34	34	32	32
136	802828	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	32	32	34	32	32	32	31	31
137	1612037	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	14	30	32	32	32	32	34	32	32
138	781593	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	16	34	32	30	30	30	30	32	32
139	1613083	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	14	36	36	34	34	34	34	32	32
140	161367	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	32	33	34	34	33	32	32	32

Sr. No	MRD	ETCO2 40	ETCO2 45	ETCO2 50	ETCO2 55	ETCO2 60	ETCO2 65	ETCO2 70	ETCO2 75	ETCO2 80	ETCO2 85	ETCO2 90	ETCO2 95	ETCO2 100	ETCO2 105	ETCO2 110	ETCO2 115	ETCO2 120	SURGICAL TIME (IN MINUTES)	ANAESTHESIA TIME (IN MINUTES)	RAAS ON OT (PREOP RAAS)	RAAS AFTER EXTUBATION 0 MIN	RAAS AFTER EXTUBATION 5MIN	RAAS AFTER EXTUBATION 10 MIN
71	1585607	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	5	4	-
72	16001481	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	80	90	4	4	4	-
73	220780	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	95	110	4	3	3	4
74	1594941	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	55	60	4	5	4	-
75	1600216	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	5	4	-
76	1088448	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	5	4	-
77	1600018	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	50	55	4	4	4	-
78	1585607	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	45	60	4	3	3	4
79	1600148	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	5	4	-
80	813721	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	40	3	2	3	4
81	1594941	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	3	3	4
82	1426369	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	85	90	4	5	4	-
83	139010	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	100	110	4	3	3	4
84	1601043	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	5	4	-
85	1601133	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	45	4	3	3	4
86	1599292	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	5	4	-
87	379293	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	50	55	4	5	4	-
88	1034541	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	55	60	4	4	4	-
89	1601536	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	5	4	-
90	1601537	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	40	5	5	4	-
91	95693	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	3	3	4
92	430731	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	85	90	4	4	4	-
93	1229580	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	95	105	4	3	3	4
94	1601424	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	4
95	1602312	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	5	4	-
96	157205	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	45	4	2	2	3
97	1602350	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	50	55	4	5	4	-
98	1501146	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	55	60	4	5	4	-
99	60769	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	3	3	4
100	159005	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	40	4	6	5	-
101	1603672	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	3	3	4
102	1588122	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	85	90	4	5	4	-
103	1602972	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	95	105	4	4	4	-
104	1662535	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	4
105	1604456	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	5	4	-
106	813789	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	4	4	-
107	1339458	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	50	55	4	4	4	-
108	1605087	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	55	60	4	4	4	-
109	304123	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	4	4	-
110	1604130	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	40	4	2	3	4
111	1606272	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	5	4	-
112	1605827	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	75	90	4	3	3	4
113	1563478	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	95	105	4	3	3	4
114	1605677	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	55	60	4	3	3	3
115	1603747	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	3
116	1594615	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	3	3	4
117	1606638	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	45	55	4	3	3	4
118	1606991	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	3	3	4
119	1606157	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	3	3	4
120	1562306	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	40	4	3	3	4
121	1606559	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	3	4	4
122	1606752	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	80	90	4	3	3	4
123	1580119	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	95	105	4	3	4	4
124	1609746	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	5	4	-
125	138373	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	2	3	4
126	1609744	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	45	4	3	3	4
127	1609693	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	50	55	4	3	4	-
128	1609910	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	4	4	-
129	1610486	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	3	4	-
130	1607807	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	40	4	6	5	4
131	1233424	34	32	34	34	34	32	32	-	-	-	-	-	-	-	-	-	-	60	70	4	4	4	-
132	1592228	34	32	32	34	32	32	32	32	32	34	32	-	-	-	-	-	-	85	90	4	4	4	-
133	1611174	34	34	32	32	34	36	36	36	32	34	34	34	34	34	34	-	-	100	110	4	4	4	-
134	1612035	32	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	4	4	-
135	1284828	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	45	4	3	3	4
136	802828	30	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	45	4	3	3	4
137	1612037	31	32	32	34	-	-	-	-	-	-	-	-	-	-	-	-	-	50	55	4	3	4	4
138	781593	33	32	33	31	31	-	-	-	-	-	-	-	-	-	-	-	-	50	60	4	4	4	-
139	1613083	34	34	33	34	34	32	32	-	-	-	-	-	-	-	-	-	-	65	70	4	4	4	-
140	161367	32	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	45	4	4	4	-

Sr. No	MRD	RAAS AFTER EXTUBATION 15 MIN	RAAS IN PACU AT 60 MIN	TIME WHEN SEVOFLURANE STOPPED T0 (IN MINUTES)	T1(TIME FROM T0 TO EXTUBATION) IN MINUTES	T2 (TIME FROM T0 TO VERBAL RESPONSE) IN MINUTES	IN PACU 0	IN PACU 5	IN PACU 10	IN PACU 15	PACU AT 60	HR AFTER EXTUBATION TILL PACU 0	HR 5	HR 10	HR 15	HR 20	HR 25	HR 30	SYS BP AFTER EXTUBATION TILL PACU 0	SYS BP 5	SYS BP 10	SYS BP 15	SYS BP 20	SYS BP 25	SYS BP 30	DIA BP AFTER EXTUBATION TILL PACU 0	DIA BP 5
71	1585607	-	4	67	4	5	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
72	16001481	-	4	83	4	5	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
73	220780	-	4	97	8	10	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
74	1594941	-	4	57	4	5	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
75	1600216	-	4	43	5	6	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
76	1088448	-	4	43	4	6	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
77	1600018	-	4	53	4	5	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
78	1585607	-	4	47	8	10	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
79	1600148	-	4	63	4	5	4	4	4	4	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
80	813721	-	4	33	8	11	4	4	4	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88
81	1594941	-	4	63	8	10	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
82	1426369	-	4	87	3	5	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
83	139010	-	4	103	8	11	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
84	1601043	-	4	53	4	5	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
85	1601133	-	4	33	8	12	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
86	1599292	-	4	43	3	5	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
87	379293	-	4	52	4	6	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
88	1034541	-	4	57	3	5	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
89	1601536	-	4	68	4	6	5	4	4	4	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
90	1601537	-	4	33	3	6	4	4	4	4	4	110	108	98	90	88	-	-	134	130	138	128	118	-	-	80	88
91	95693	-	4	63	8	11	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
92	430731	-	4	88	3	5	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
93	1229580	-	4	98	8	10	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
94	1601424	-	4	53	8	11	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
95	1602312	-	4	43	3	5	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
96	157205	4	4	37	10	12	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
97	1602350	-	4	53	4	5	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
98	1501146	-	4	57	4	6	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
99	60769	-	4	63	8	10	4	4	4	4	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
100	159005	-	5	37	4	6	6	4	4	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88
101	1603672	-	4	63	8	11	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
102	1588122	-	4	87	4	6	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
103	1602972	-	4	97	4	5	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
104	1662535	-	4	53	8	10	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
105	1604456	-	4	43	4	5	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
106	813789	-	4	43	4	5	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
107	1339458	-	4	53	4	6	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
108	1605087	-	4	57	3	5	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
109	304123	-	4	63	3	5	5	5	5	4	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
110	1604130	-	4	33	8	12	4	4	4	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88
111	1606272	-	4	63	3	5	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
112	1605827	-	4	77	8	10	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
113	1563478	-	4	97	8	12	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
114	1605677	4	4	57	9	13	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
115	1603747	4	4	53	10	12	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
116	1594615	-	4	43	8	10	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
117	1606638	-	4	47	7	10	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
118	1606991	-	4	53	8	11	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
119	1606157	-	4	67	8	10	4	4	4	4	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
120	1562306	-	4	33	10	12	4	4	4	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88
121	1606559	-	4	68	8	10	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
122	1606752	-	4	83	7	11	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
123	1580119	-	4	97	8	10	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
124	1609746	-	4	53	4	5	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
125	138373	-	4	43	8	10	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
126	1609744	-	4	37	9	11	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
127	1609693	-	4	53	6	8	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
128	1609910	-	4	53	3	5	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
129	1610486	-	4	63	8	10	4	4	4	4	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
130	1607807	-	4	37	5	9	4	4	4	4	4	110	122	98	94	90	-	-	144	140	138	120	118	-	-	78	88
131	1233424	-	4	64	3	6	4	4	4	4	4	94	92	90	84	82	-	-	134	120	116	110	112	-	-	88	84
132	1592228	-	4	88	4	6	4	4	4	4	4	98	88	84	82	86	-	-	138	132	120	128	126	-	-	90	86
133	1611174	-	4	103	3	5	4	4	4	4	4	84	88	88	82	84	-	-	140	144	138	134	130	-	-	80	84
134	1612035	-	4	53	6	8	4	4	4	4	4	64	62	60	62	64	-	-	120	116	118	112	110	-	-	80	78
135	1284828	-	4	38	8	12	4	4	4	4	4	108	100	96	90	92	-	-	140	138	120	118	120	-	-	98	90
136	802828	-	4	33	8	12	4	4	4	4	4	74	76	78	74	76	-	-	110	108	106	116	114	-	-	62	60
137	1612037	-	4	53	9	11	4	4	4	4	4	88	80	82	80	84	-	-	122	120	124	118	116	-	-	80	78
138	781593	-	4	53	3	5	4	4	4	4	4	80	84	78	70	74	-	-	128	118	120	116	120	-	-	78	70
139	1613083	-	4	68	3	5	4	4	4	4	4	124	118	124	110	98	-	-	154	148	140	138	130	-	-	100	98
140	161367	-	4	43	5	8	4	4	4	4	4	110	106	92	94	88	82	-	134	128	122	120	130	126	-	88	82

Sr. No	MRD	DIA BP 10	DIA BP 15	DIA BP 20	DIA BP 25	DIA BP 30	SPO2 AFTER EXTUBATION TILL PACU 0	SPO2 5	SPO2 10	SPO2 15	SPO2 20	SPO2 25	SPO2 30	PACU HR 0	HR 5	HR 10	HR 15	HR 20	HR 25	HR 30	HR 35	HR 40	HR 45	HR 50	HR 55	HR 60	PACU SYS BP 0	SYS BP 5	SYS BP 10	SYS BP 15	SYS BP 20	SYS BP 25	SYS BP 30
71	1585607	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
72	16001481	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
73	220780	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
74	1594941	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
75	1600216	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
76	1088448	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
77	1600018	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
78	1585607	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
79	1600148	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
80	813721	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
81	1594941	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
82	1426369	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
83	139010	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
84	1601043	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
85	1601133	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
86	1599292	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
87	379293	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
88	1034541	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
89	1601536	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
90	1601537	92	70	68	-	-	96	98	100	100	97	-	-	88	90	80	86	80	78	70	74	77	72	70	70	68	134	128	130	132	122	124	120
91	95693	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
92	430731	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
93	1229580	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
94	1601424	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
95	1602312	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
96	157205	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
97	1602350	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
98	1501146	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
99	60769	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
100	159005	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
101	1603672	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
102	1588122	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
103	1602972	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
104	1662535	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
105	1604456	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
106	813789	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
107	1339458	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
108	1605087	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
109	304123	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
110	1604130	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
111	1606272	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
112	1605827	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
113	1563478	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
114	1605677	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
115	1603747	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
116	1594615	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
117	1606638	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
118	1606991	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
119	1606157	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
120	1562306	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
121	1606559	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
122	1606752	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
123	1580119	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
124	1609746	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
125	138373	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
126	1609744	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
127	1609693	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
128	1609910	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
129	1610486	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
130	1607807	74	70	68	-	-	100	100	100	100	100	-	-	94	90	88	86	80	78	70	74	70	72	70	70	68	134	136	130	128	120	124	120
131	1233424	82	80	82	-	-	98	99	99	99	100	-	-	88	86	84	88	84	82	80	84	88	82	86	82	84	120	116	114	118	124	118	116
132	1592228	80	78	70	-	-	98	98	98	98	98	-	-	84	86	88	94	92	90	92	88	86	84	86	90	92	138	134	132	136	132	134	132
133	1611174	82	80	82	-	-	98	98	98	98	98	-	-	84	88	82	84	82	80	84	86	90	92	82	84	82	138	136	134	128	126	120	124
134	1612035	80	70	68	-	-	98	100	100	100	100	-	-	64	62	60	62	64	62	64	62	64	62	64	62	60	110	116	112	116	114	112	120
135	1284828	88	80	80	-	-	98	98	100	100	100	-	-	106	98	100	98	90	88	84	82	80	78	84	88	82	130	128	134	126	120	120	124
136	802828	58	60	62	-	-	100	100	100	100	100	-	-	74	76	72	74	72	68	70	72	74	74	76	74	72	118	116	114	112	110	114	116
137	1612037	76	74	70	-	-	100	100	100	100	100	-	-	70	68	66	60	72	74	68	64	76	72	68	62	72	110	112	110	120	116	114	120
138	781593	74	72	70	-	-	100	100	100	100	100	-	-	68	70	66	65	64	62	60	62	66	64	68	70	68	118	116	120	116	118	110	106
139	1613083	90	88	90	-	-	98	99	100	100	100	-	-	98	90	94	98	94	98	92	90	88	84	80	78	80	144	140	138	144	142	138	136
140	161367	70	72	68	80	-	100	100	100	100	100	100	-	96	94	88	84	80	76	70	68	70	72	70	82	76	132	128	130	124	118	124	110

Sr. No	MRD	SYS BP 35	SYS BP 40	SYS BP 45	SYS BP 50	SYS BP 55	SYS BP 60	PACU DIA BP 0	DIA BP 5	DIA BP 10	DIA BP 15	DIA BP 20	DIA BP 25	DIA BP 30	DIA BP 35	DIA BP 40	DIA BP 45	DIA BP 50	DIA BP 55	DIA BP 60	PACU SPO2 0	SPO2 5	SPO2 10
71	1585607	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
72	16001481	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
73	220780	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
74	1594941	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
75	1600216	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
76	1088448	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
77	1600018	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
78	1585607	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
79	1600148	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
80	813721	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
81	1594941	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
82	1426369	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
83	139010	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
84	1601043	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
85	1601133	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
86	1599292	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
87	379293	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
88	1034541	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
89	1601536	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
90	1601537	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
91	95693	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
92	430731	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
93	1229580	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
94	1601424	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
95	1602312	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
96	157205	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
97	1602350	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
98	1501146	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
99	60769	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
100	159005	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
101	1603672	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
102	1588122	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
103	1602972	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
104	1662535	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
105	1604456	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
106	813789	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
107	1339458	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
108	1605087	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
109	304123	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
110	1604130	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
111	1606272	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
112	1605827	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
113	1563478	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
114	1605677	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
115	1603747	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
116	1594615	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
117	1606638	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
118	1606991	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
119	1606157	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
120	1562306	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
121	1606559	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
122	1606752	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
123	1580119	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
124	1609746	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
125	138373	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
126	1609744	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
127	1609693	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
128	1609910	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
129	1610486	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
130	1607807	118	124	110	116	122	126	88	70	76	74	70	82	80	70	68	66	70	74	72	100	100	100
131	1233424	118	114	106	112	118	120	86	82	88	84	82	84	80	78	82	74	76	80	82	100	100	100
132	1592228	130	132	134	136	132	128	90	88	84	94	88	92	84	88	90	92	88	90	92	98	96	96
133	1611174	130	136	128	132	128	132	88	86	90	86	82	84	82	86	84	80	78	82	84	98	98	98
134	1612035	118	114	120	114	106	110	74	80	78	82	76	68	70	66	68	70	68	66	68	100	100	98
135	1284828	126	118	116	120	122	120	90	88	84	82	80	82	80	78	72	74	70	72	70	100	100	100
136	802828	114	110	116	114	112	110	64	62	60	64	62	60	58	62	60	62	56	58	62	100	100	100
137	1612037	122	124	120	118	114	110	70	68	60	64	60	70	72	68	60	62	60	58	62	100	100	100
138	781593	100	110	120	114	110	116	60	66	62	70	72	70	66	64	76	70	68	72	70	100	100	100
139	1613083	130	132	128	124	126	120	90	94	92	90	88	92	80	86	80	78	76	70	72	100	100	100
140	161367	116	124	118	116	122	124	86	72	70	72	68	80	82	70	66	72	70	74	62	100	100	96

Sr. No	MRD	SPO2 15	SPO2 20	SPO2 25	SPO2 30	SPO2 35	SPO2 40	SPO2 45	SPO2 50	SPO2 55	SPO2 60	PACU VAS 0	VAS 5	VAS 10	VAS 15	VAS 20	VAS 25	VAS 30	VAS 35	VAS 40	VAS 45	VAS 50	VAS 55	VAS 60	RESCUE ANALGESIA 0	ANALGESIA 5
71	1585607	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
72	16001481	96	96	96	96	97	96	97	96	96	96	5	4	4	3	3	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
73	220780	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
74	1594941	98	98	98	98	98	98	98	98	-	98	6	4	4	3	3	3	3	2	2	2	2	2	2	-	FENTANYL 25MCG
75	1600216	100	100	100	100	100	100	100	100	100	100	8	8	5	5	3	3	2	2	2	2	2	2	2	-	FENTANYL 25MCG
76	1088448	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	3	3	3	3	2	2	-	-
77	1600018	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	5	5	3	3	3	3	3	2	-	-
78	1585607	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
79	1600148	100	100	100	100	100	100	100	100	100	100	8	8	6	6	4	4	2	2	2	2	2	1	1	-	FENTANYL 25MCG
80	813721	100	100	100	100	100	100	100	100	100	100	7	7	6	6	5	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
81	1594941	100	100	100	100	100	100	100	100	100	100	6	6	5	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
82	1426369	96	96	96	96	97	96	97	96	96	96	5	4	4	2	2	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
83	139010	98	98	99	99	99	98	98	97	98	98	6	6	4	3	3	3	2	2	2	2	2	2	2	-	FENTANYL 25MCG
84	1601043	98	98	98	98	98	98	98	98	-	98	6	4	4	4	3	3	3	2	2	2	2	2	2	-	FENTANYL 25MCG
85	1601133	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG
86	1599292	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	3	3	3	3	2	2	-	-
87	379293	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
88	1034541	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
89	1601536	100	100	100	100	100	100	100	100	100	100	8	8	6	6	6	6	6	2	2	2	2	1	1	-	FENTANYL 25MCG
90	1601537	100	100	100	100	100	100	100	100	100	100	7	7	8	7	7	5	5	5	5	2	2	2	2	-	FENTANYL 25MCG
91	95693	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
92	430731	96	96	96	96	97	96	97	96	96	96	5	4	3	3	3	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
93	1229580	98	98	99	99	99	98	98	97	98	98	6	6	4	4	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
94	1601424	98	98	98	98	98	98	98	98	-	98	6	4	4	4	4	4	4	2	2	2	2	2	2	-	FENTANYL 25MCG
95	1602312	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG
96	157205	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
97	1602350	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
98	1501146	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
99	60769	100	100	100	100	100	100	100	100	100	100	8	8	6	6	6	6	6	2	2	2	2	1	1	-	FENTANYL 25MCG
100	159005	100	100	100	100	100	100	100	100	100	100	7	7	8	6	6	5	5	5	5	2	2	2	2	-	FENTANYL 25MCG
101	1603672	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
102	1588122	96	96	96	96	97	96	97	96	96	96	5	4	3	3	3	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
103	1602972	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
104	1662535	98	98	98	98	98	98	98	98	-	98	6	4	4	3	3	3	3	2	2	2	2	2	2	-	FENTANYL 25MCG
105	1604456	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG
106	813789	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
107	1339458	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
108	1605087	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
109	304123	100	100	100	100	100	100	100	100	100	100	8	8	6	5	4	4	3	2	2	2	2	1	1	-	FENTANYL 25MCG
110	1604130	100	100	100	100	100	100	100	100	100	100	7	7	8	7	7	5	5	5	5	2	2	2	2	-	FENTANYL 25MCG
111	1606272	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
112	1605827	96	96	96	96	97	96	97	96	96	96	5	4	4	3	3	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
113	1563478	98	98	99	99	99	98	98	97	98	98	6	6	5	5	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
114	1605677	98	98	98	98	98	98	98	98	-	98	6	4	4	4	3	3	3	2	2	2	2	2	2	-	FENTANYL 25MCG
115	1603747	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	4	4	4	4	4	3	2	-	FENTANYL 25MCG
116	1594615	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
117	1606638	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
118	1606991	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
119	1606157	100	100	100	100	100	100	100	100	100	100	8	8	6	6	6	6	6	2	2	2	2	1	1	-	FENTANYL 25MCG
120	1562306	100	100	100	100	100	100	100	100	100	100	7	7	8	7	7	5	5	5	5	2	2	2	2	-	FENTANYL 25MCG
121	1606559	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
122	1606752	96	96	96	96	97	96	97	96	96	96	5	4	3	3	3	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
123	1580119	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
124	1609746	98	98	98	98	98	98	98	98	-	98	6	4	3	3	3	3	3	2	2	2	2	2	2	-	FENTANYL 25MCG
125	138373	100	100	100	100	100	100	100	100	100	100	8	8	7	4	4	3	3	3	3	2	2	2	2	-	FENTANYL 25MCG
126	1609744	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	3	3	3	3	2	2	-	-
127	1609693	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
128	1609910	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
129	1610486	100	100	100	100	100	100	100	100	100	100	8	8	6	6	6	6	6	2	2	2	2	1	1	-	FENTANYL 25MCG
130	1607807	100	100	100	100	100	100	100	100	100	100	7	7	6	6	4	4	4	3	32	2	2	2	2	-	FENTANYL 25MCG
131	1233424	100	100	100	100	100	100	100	100	100	100	6	6	6	5	4	4	4	4	2	2	2	2	2	-	FENTANYL 25MCG
132	1592228	96	96	96	96	97	96	97	96	96	96	5	4	4	4	4	2	2	2	2	2	2	2	2	-	FENTANYL 25MCG
133	1611174	98	98	99	99	99	98	98	97	98	98	6	6	6	6	4	4	2	2	2	2	2	2	2	-	FENTANYL 25MCG
134	1612035	98	98	98	98	98	98	98	98	-	98	6	4	3	3	3	3	3	2	2	2	2	2	2	-	FENTANYL 25MCG
135	1284828	100	100	100	100	100	100	100	100	100	100	8	8	7	6	4	4	3	3	3	3	3	3	2	-	FENTANYL 25MCG
136	802828	100	100	100	100	100	100	100	100	100	100	2	2	2	2	2	2	2	4	4	4	3	2	2	-	-
137	1612037	100	100	100	100	100	100	100	100	100	100	3	2	4	3	2	4	4	5	5	5	4	4	2	-	-
138	781593	100	100	100	100	100	100	100	100	100	100	3	3	3	3	3	3	3	4	4	4	5	5	2	-	-
139	1613083	100	100	100	100	100	100	100	100	100	100	8	8	6	6	5	4	4	2	2	2	2	1	1	-	FENTANYL 25MCG
140	161367	98	100	100	98	97	98	100	96	100	97	7	8	8	7	6	4	3	3	3	3	2	2	2	-	FENTANYL 25MCG

Sr. No	MRD	ANALGESIA 10	ANALGESIA 15	ANALGESIA 20	ANALGESIA 25	ANALGESIA 30	ANALGESIA 35	ANALGESIA 40	ANALGESIA 45	ANALGESIA 50	ANALGESIA 55	ANALGESIA 60	FIRST RESCUE ANALGESIA	TOTAL ANALGESIA FENTANYL MCG	TOTAL ANALGESIA TRAMADOL MG
71	1585607	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
72	16001481	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
73	220780	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
74	1594941	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
75	1600216	TRAMADOL 50MG	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	5	50	50
76	1088448	-	-	-	-	-	-	-	-	-	-	-	-	-	-
77	1600018	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	25	25	-
78	1585607	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
79	1600148	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
80	813721	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
81	1594941	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
82	1426369	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
83	139010	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
84	1601043	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
85	1601133	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
86	1599292	-	-	-	-	-	-	-	-	-	-	-	-	-	-
87	379293	-	-	-	FENTANYL 25MCG	TRAMADOL 50MG	-	-	-	-	-	-	25	25	50
88	1034541	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
89	1601536	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
90	1601537	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
91	95693	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
92	430731	-	-	-	-	-	-	-	-	-	-	-	5	25	-
93	1229580	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
94	1601424	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
95	1602312	TRAMADOL 50MG	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	5	50	50
96	157205	-	-	-	-	-	FENTANYL 25MCG	-	-	-	-	-	40	25	-
97	1602350	-	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	35	25	-
98	1501146	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
99	60769	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
100	159005	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
101	1603672	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
102	1588122	-	-	-	-	-	-	-	-	-	-	-	5	25	-
103	1602972	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
104	1662535	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
105	1604456	TRAMADOL 50MG	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	5	50	50
106	813789	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	-	40	25	-
107	1339458	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	25	25	-
108	1605087	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
109	304123	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
110	1604130	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
111	1606272	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
112	1605827	-	-	-	-	-	-	-	-	-	-	-	5	25	-
113	1563478	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
114	1605677	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
115	1603747	TRAMADOL 50MG	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	5	50	50
116	1594615	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	-	40	25	-
117	1606638	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	25	25	-
118	1606991	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
119	1606157	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
120	1562306	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
121	1606559	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
122	1606752	-	-	-	-	-	-	-	-	-	-	-	5	25	-
123	1580119	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
124	1609746	-	-	-	-	-	-	-	-	-	-	-	5	25	-
125	138373	TRAMADOL 50MG	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	5	50	50
126	1609744	-	-	-	-	-	-	-	-	-	-	-	-	-	-
127	1609693	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	25	25	-
128	1609910	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
129	1610486	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
130	1607807	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
131	1233424	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
132	1592228	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
133	1611174	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
134	1612035	-	-	-	-	-	-	-	-	-	-	-	5	25	-
135	1284828	TRAMADOL 50MG	-	-	-	-	-	-	-	-	-	-	5	25	50
136	802828	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	-	40	25	-
137	1612037	-	-	-	FENTANYL 25MCG	-	-	-	-	-	-	-	25	25	-
138	781593	-	-	-	-	-	-	-	FENTANYL 25MCG	-	-	-	45	25	-
139	1613083	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50
140	161367	TRAMADOL 50MG	-	FENTANYL 25MCG	-	-	-	-	-	-	-	-	5	50	50

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Subject:: Approval of Plan of Thesis.

This is to inform you that the Faculty of Medical Sciences in its meeting held on 25.09.2023 has approved the plan of thesis of **Divya Wadhwa**, a student of your college for **MD Anaesthesiology** along with the names of Supervisor/Co-Supervisor as under:-

Topic Plan of Thesis
To study the effect of dexmedetomidine premedication on emergence agitation.

Supervisor	Co-Supervisor:-
Dr. Tanveer Singh	Dr. Shikha Gupta
Assoc. Professor	Professor
Dept. of Anaesthesiology	Dept. of Anaesthesiology

The student may submit the thesis in triplicate alongwith the plan in triplicate also, to the Controller of Examinations, BFUHS, Faridkot, at least six months before the commencement of theory examination, if he/she is otherwise eligible to take the examination. He /She may be directed to attach a photocopy of this letter with the forwarding letter while submitting thesis in the University along with the letter of approval of University for change of supervisor/Co-Supervisor, change of topic, if any.

Controller of Examinations

Note :

1. *If any discrepancy found regarding topic of thesis or Supervisor/Co-Supervisor, inform undersigned within one month after issue of this letter.*

TO STUDY THE EFFECT OF DEXMEDETOMIDINE PREMEDICATION ON EMERGENCE AGITATION

THESIS PROPOSAL

FOR APPROVAL OF SUBJECT OF THESIS TO BE SUBMITTED

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

DOCTOR OF MEDICINE

IN

MD ANESTHESIOLOGY

OF THE

BABA FARID UNIVERSITY OF HEALTH SCIENCES

FARIDKOT

AUGUST, 2022

DR DIVYA WADHWA

DEPARTMENT OF ANESTHESIOLOGY

DAYANAND MEDICAL COLLEGE & HOSPITAL,

LUDHIANA

ABSTRACT OF PLAN OF THESIS

Title	To study the effect of dexmedetomidine premedication on emergence agitation
For the degree of	MD Anesthesiology
Name of the candidate	Dr. Divya Wadhwa
Supervisor	Dr. Tanveer Singh, Associate Professor, Deptt. of Anesthesia, DMCH, Ludhiana
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Institution	Dayanand Medical College & Hospital, Ludhiana
University	Baba Farid University of Health Sciences, Faridkot

Introduction: Emergence agitation (EA) is a transient unpleasant condition which occurs during recovery from inhalational general anesthesia. Various medications have been used for prevention and treatment of EA with varying degrees of success and side effects. Intraoperative use of dexmedetomidine has shown to reduce incidence of EA and facilitate smooth recovery from general anesthesia without any side effects. Preoperative anxiety is one of the risk factors for EA, hence decrease in preoperative anxiety with the use of dexmedetomidine could further decrease the incidence of EA. However, studies which have evaluated the use of preoperative dexmedetomidine for prevention of EA in adults are limited. Therefore we propose to evaluate the role of preoperative dexmedetomidine on EA in adults undergoing laparoscopic abdominal surgeries.

Aim of Study: We aim to evaluate the role of premedication with dexmedetomidine on emergence agitation in patients undergoing laparoscopic abdominal surgeries under general anesthesia.

Materials & methods: A randomized control study will be conducted on 140 patients divided into two groups of 70 each. Infusion of dexmedetomidine (1 mcg/kg) will be given over 20 minutes in the preoperative area in group D and normal saline infusion will be given in group N. The EA would be scored after extubation and in post anesthesia care unit using the Riker sedation and agitation scale.

Clinical Significance: Intraoperative use of dexmedetomidine has shown to decrease the incidence of EA along with better hemodynamic stability and analgesic properties. Dexmedetomidine has anxiolytic properties hence we hypothesize that preoperative use of dexmedetomidine may help decrease preoperative anxiety and emergence agitation.

Keywords: Emergence agitation, dexmedetomidine, Riker agitation and sedation scale

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Candidate

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Co-supervisor

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Supervisor

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Principal

CERTIFICATE OF FACILITIES AVAILABLE

This is to certify that the facilities for work on the subject of thesis titled **"TO STUDY THE EFFECT OF DEXMEDETOMIDINE PREMEDICATION ON EMERGENCE AGITATION"** exist in the Department of Anesthesia, DMC&H, Ludhiana and will be provided to be candidate of will be provided to the candidate. We will see that the data being included in the thesis are genuine and are collected by the candidate herself under our supervision and guidance.

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APPROVAL PROFORMA
BY
RESEARCH & ETHICAL COMMITTEE
DAYANAND MEDICAL COLLEGE & HOSPITAL, LUDHIANA

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Date of enrolment	March 7, 2022
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Dr. Jaspal Singh (Professor & Head, Surgery)	Dr. Ramit Mahajan (Associate Professor, Gastroenterology)
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Approved: Yes / ~~No~~

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Research Committee

Approved: Yes / ~~No~~

Prof. Arvind Malhotra
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BABA FARID UNIVERSITY OF HEALTH SCIENCES, FARIDKOT

PROFORMA FOR REGISTRATION OF SUBJECT FOR DISSERTATION

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4	DATE OF ADMISSION OF COURSE	08/03/22
5	TITLE OF THE TOPIC	TO STUDY THE EFFECT OF DEXMEDETOMIDINE PREMEDICATION ON EMERGENCE AGITATION.

6. BRIEF RESUME OF THE INTENDED WORK

6.1 NEED FOR THE STUDY

Emergence agitation (EA) is defined as a transient condition of agitation which occurs after extubation. It involves restlessness, disorientation, non-purposeful movement, inconsolability, thrashing and incoherence during recovery from general anesthesia[1]. The incidence of EA could vary depending on type and duration of surgery, age of patient and other factors like anesthesia with the use of sevoflurane and desflurane, presence of invasive devices, pain, cold, full bladder, fear etc[1].

Pre operative anxiety and abnormal physiological derangements could also contribute significantly to increased incidence of EA[2]. Hence, allaying pre-operative anxiety could lead to reduction of EA.

EA should be differentiated from emergence delirium (ED) which is an acute confusional state. The criteria for delirium includes inattention (eye contact with the caregiver), disorganized thinking or dysregulated systems (unawareness of surroundings), changes in cognition (decrease in purposeful actions), and a disturbance in psychomotor behaviour. EA, unlike delirium, is not associated with a significant change in behaviour or cognition.

The pathophysiology of EA is unknown. The use of volatile agents with low blood solubility such as sevoflurane[3] and desflurane[4] which could lead to differential recovery rates in brain function wherein auditory and locomotor recover first and cognitive functions recover later, could result in EA.[4]

EA can lead to serious complications like injury, increased pain, hemorrhage, self extubation, removal of catheters and may even necessitate physical or chemical restraints.[1] It may lead to injury of hospital staff and increase of hospital costs. Therefore, identifying risk factors of EA to prevent these problems is important for anaesthesiologist.

The strategies to prevent and treat EA can be pharmacological and non pharmacological. The non pharmacological methods include informing the patient about pain and discomfort prior to anesthesia,

removing the indwelling invasive devices as early as possible, parental presence during induction of anesthesia and recovery in pediatric age groups. [5]

Various medications have been used for prevention and treatment of EA such as propofol [5-7], opioids[5,8], ketamine[5,9], magnesium sulfate[5,10], benzodiazepines[5,11] and dexmedetomidine etc with varying degrees of success. Seok-Jin and Tae-Yun Sung in March 2020 evaluated use of various agents for prevention of EA. Propofol[5,6,7] has been the most preferred drug for treatment and prevention of EA but it requires continuous infusion during maintenance of anesthesia intraoperatively and additional bolus is required at the end of surgery to prevent EA[5].This leads to delayed awakening. Opioids including fentanyl[8], sufentanil, alfentanil have also shown to reduce the incidence of EA. The intraoperative infusion of opioids also reduces the non purposeful movements but opioids result in delayed awakening, nausea, vomiting, respiratory depression[5]. Tramadol[5,12] a centrally acting opioid, can lead to dizziness, diarrhea/constipation, sweating and nausea/vomiting. Ketamine[5,9] has sedative, amnestic and analgesic properties. Its use towards the end of surgery has shown to reduce incidence of EA but it also prolongs the anesthesia time due to delayed recovery and can lead to psychedelic symptoms (hallucinations, panic attacks), nausea, vomiting. Magnesium sulfate[5,10] has central sedative and neuroprotective actions. The anticonvulsant action of this drug reduces the incidence of EA which is seen only when used in the form of continuous infusion intraoperatively. It can lead to hypotension, confusion, diminished reflexes and prolonged duration of muscle relaxants.[5,10]

Dexmedetomidine[4,5,13,14,15] has been found to be an extremely effective drug for prevention of EA as compared to ketamine, propofol, magnesium sulfate and fentanyl. It has anxiolytic, analgesic, sedative and sympatholytic effects through activation of alpha2 receptors in CNS, decreasing neuronal activities and enhancing vagal activities. Activation of alpha receptors in locus coeruleus leads to sedation.[5]

Dexmedetomidine also has action in the spinal cord and it inhibits the secretion of substance P, thus directly inhibiting pain transmission, resulting in analgesic effect.

Choi et al[15] used an infusion of dexmedetomidine intraoperatively in patients undergoing laparoscopic cholecystectomy under general anaesthesia and concluded that use of intraoperative dexmedetomidine decreases emergence agitation and improves intraoperative hemodynamics.

Kain et al[2] in their study evaluating the effect of preoperative anxiety on postoperative maladaptive behaviours, found a strong association between preoperative anxiety and emergence delirium. Hence, decrease in preoperative anxiety with the use of dexmedetomidine could further decrease the incidence of EA[2]. Studies assessing the role of preoperative dexmedetomidine on emergence agitation in adults are sparse.[1] Therefore we propose to evaluate the role of preoperative dexmedetomidine on EA in adults undergoing laparoscopic abdominal surgeries.

6.2 REVIEW OF LITERATURE

As described by **Millers'** emergence is the most distractive period as compared to induction and maintenance of anesthesia in relation to the staff and environment of the operation theatre. The period of emergence is high risk and a high workload for anesthesia professional.[16]

EA comprises agitation, confusion, disorientation or violent behavior in the early phase of recovery from anesthesia. Agitation can be due to various factors including pain, cold, full bladder, fear, anxiety due to parental separation. In some cases, agitation might be due to delirium wherein delirium is characterized by reduced awareness of the environment and altered cognition or perceptual disturbances.[16]

EA has been well studied in children but studies in adults regarding one of the most commonly faced clinical problem remain limited.[1] Various drugs like fentanyl,[8] propofol,[6] clonidine,[17] midazolam,[11] alpha2 agonists and TIVA[18] have been used for prevention and treatment of EA with varying degrees of success.[13]

Rim et al. in 2016 did a study on the risk factors of emergence agitation after general anesthesia in adults.[19] They retrospectively investigated the medical records of adult patients who stayed in post anesthesia care unit. Aono's four point scale was used for analysing the behavioural and psychological status of the patients. The study also discussed that emergence agitation has not been fully studied in adult patients despite of being a relatively common complication. Male gender, older age, abdominal surgery, spine surgery, longer durations of surgery, post operative nausea vomiting, post operative pain were all identified as risk factors for EA. The limitations to the study were that patients who required invasive monitoring or endotracheal intubation were directly transferred to ICU without PACU stay and only four point scale was used.[19]

Kain et al. indicated that there is a likely relationship between preoperative anxiety, emergence and postoperative new onset maladaptive behavioral changes. The study also emphasized that reducing anxiety could reduce the incidence of postoperative behavioral changes.[2] This is the first study to establish the odds of having marked symptoms of emergence delirium and negative postoperative behavioral changes based on preoperative anxiety.[2]

Garg et al. in July 2018 studied the effect of dexmedetomidine infusion during the maintenance of anesthesia on emergence agitation. The study was conducted on 72 patients of ASA 1 and 2 patients scheduled for elective nasal surgery of more than one hour duration under desflurane anesthesia. Ricker sedation and agitation scale was used to evaluate agitation during emergence. They concluded that intraoperative dexmedetomidine was effective in reducing the incidence of EA by 89.5% (P= 0.00001) and also produced more stable haemodynamics during surgery as well as during extubation.[4] However, it could lead to delayed recovery in terms of prolonged time to extubation, time to achieve BIS value of 90, time to discharge from PACU.[4]

Kang et al. in 2019 did a retrospective cohort study on the use of intraoperative infusion of dexmedetomidine and its association with emergence agitation and recovery profiles after lung surgery. They concluded that incidence of EA was 10.9% in group dexmedetomidine and 15% in non dexmedetomidine group.[20] The study had several limitations. First, this was an observational cohort study. Second, differences existed in the specific methods and doses of intraoperative dexmedetomidine administration.[20]

Mostafa et al. did a randomized controlled double blinded study to know the effect of different doses of dexmedetomidine on stress response and emergence agitation after laparoscopic cholecystectomy. 90 patients scheduled for laparoscopic cholecystectomy were randomly assigned into three equal groups to receive intraoperative dexmedetomidine infusion over 20 minutes before end of surgery. Group I received 1 µg/kg, group II received 0.75 µg/kg and group III received 0.5 µg/kg. The study found that dexmedetomidine (0.5, 0.75 or 1 µg/kg) can decrease the incidence of EA when infused 20 minutes before skin closure in laparoscopic cholecystectomy in adults.[14] However, this study did not consider any other preoperative predisposing factor that may affect the incidence of EA especially anxiety. They also did not use any monitoring for depth of anesthesia.[14]

Kim et al. in 2019 did a trial to evaluate whether preoperative administration of dexmedetomidine is effective in reducing the incidence and severity of emergence agitation in adults undergoing reduction of nasal bone fractures. 90 patients who were scheduled for surgery were included and were randomly assigned to either the control group (*n=45*; 0.9% saline infusion) or the dexmedetomidine group (n = 45; 1 µ/kg over 10 min, pre-operatively). EA was assessed using Aono's four-point scale. Aono's four-point scale scores were lower in the dexmedetomidine group than in the control group (median: 1 [1] vs. 1 [1, 2], 95% confidence interval of difference: 0.01 to 0.02, *P* = 0.02). The number, severity, and duration of agitation episodes were significantly lower in the dexmedetomidine group than in the control group. Also, the number of patients exhibiting intraoperative movement was lower in the dexmedetomidine group.[13] This study did not assess the effect of different doses of dexmedetomidine and the effect of dexmedetomidine on inhalational anesthetic dose.[13]

Seok-Jin Lee and **Tae-Yun Sung** in 2020 did a study about the current knowledge, prevention and treatment of emergence agitation. They defined EA as restlessness, disorientation, excitation, non purposeful movement, inconsolability, thrashing during recovery from general anesthesia.[5] They explained the risk factors and the advantages, disadvantages of various drugs and their combinations used for prevention and treatment of EA.[5]

Choi et al. in 2021 studied the effect of bolus dose of dexmedetomidine on postoperative pain, agitation, and quality of recovery after laparoscopic cholecystectomy. The patients were randomized to receive dexmedetomidine 0.5 μg/kg 5 minutes after anesthesia induction (dexmedetomidine group, n = 45) or normal saline (control group, n = 45). The Quality of recovery was documented at the first postoperative day using a 40-item scoring system (QoR-40). The heart rate and the mean blood pressure were significantly lower in the dexmedetomidine group than in the control group ($P < .001$ and .007, respectively). During extubation, emergence agitation was significantly lower in the dexmedetomidine group than in the control group (23% vs 64%, $P < .001$). The median pain scores in the postanesthesia care unit were significantly lower in the dexmedetomidine group than in the control group.[15] However, there was no improvement in the postoperative recovery profile on the 40-item QoR scoring system.[15]

6.3 AIMS AND OBJECTIVES OF THE STUDY

- To evaluate the effect of preoperative intravenous infusion of dexmedetomidine on Emergence agitation.
- To study the effect of premedication with dexmedetomidine on hemodynamic parameters and adverse effects, if any.

7. MATERIALS AND METHODS

7.1 SOURCE OF DATA

After approval from the institution ethics committee the study will be conducted in a randomized controlled method on 140 adult patients of either sex posted for elective abdominal laparoscopic surgery under general anaesthesia. A written informed consent will be obtained from each patient before entry in the study. Patients will be randomly allocated into two equal groups of 70 each by computer generated randomized codes contained in sealed, sequentially numbered envelopes.

7.2 METHOD OF COLLECTION OF DATA

Inclusion criterion:

a) Laparoscopic abdominal surgeries under general anesthesia.

b) Age from 18-65 years of either gender.

c) ASA 1,2,3.

Exclusion criterion:

a) Severe systemic illness (cardiac, hepatic, renal, pulmonary, neurological, psychiatric)

b) substance abuse disorder

c) pregnant women

d) allergy from study drug

e) On psychotropic drugs

f) BMI >35 kg/m2

g) On medication (beta-blockers, alpha2 agonists, opioids, clonidine)

h) Surgeries lasting more than 2 hours

Group Allocation

Group D: Infusion of dexmedetomidine in the dose of 1 mcg/kg in 20 ml normal saline will be given over 20 minutes in the preoperative area prior to shifting to OT.

Group N: Infusion of 20 ml normal saline will be given over 20 minutes in the preoperative area prior to shifting to OT.

TECHNIQUE:

On arrival in the preoperative room, standard monitoring in the form of electrocardiography, pulse oximetry and a non-invasive blood pressure

cuff will be applied to each patient. After securing the intravenous access patients will be administered study drugs according to their group allocation by a resident doctor who will not be involved in any other part of this study. Vitals will be noted every 5 mins during administration of the drug till 10 mins after the drug is administered. No other sedative premedications will be given to study participants. After 10 mins of drug administration patients will be shifted to the operation theater.

On arrival in the OT, the level of agitation using the 7-point Riker agitation sedation scale will be assessed before anesthetic drug administration.

RIKER SEDATION AND AGITATION SCALE[5,21]

7.. Dangerous agitation

Tries to remove monitors and devices or climb out of bed; tosses and turns; lashes out at staff

6. Very agitated despite frequent verbal reassurance; requires restraint

5. Agitated

Anxious or restless; attempts to move; calms down with reassurance

4. Calm and cooperative

Calm; easy to arouse; able to follow instructions and verbal commands

3. Sedated

Difficult to awaken; responds to verbal prompts or gentle shaking but drifts off again

2. Very sedated

Incommunicative; responds to physical stimuli but not verbal instructions; may move spontaneously

1. Unarousable

Incommunicative; little or no response to painful stimuli

Monitors in the form of pulse oximetry, non invasive blood pressure, and electrocardiography will be attached inside the operation theater and readings noted. Patients will be preoxygenated with 100% oxygen for 3-5 minutes followed by premedication with Inj midazolam 0.1mg/kg and Inj. Fentanyl 2mcg/kg intravenously. Induction will be done with Inj propofol 2 mg/kg slow iv, till loss of eyelash reflex. Inj atracurium

0.5mg/kg will be given for muscle relaxation 3 minutes prior to laryngoscopy. Endotracheal intubation will be done using an endotracheal tube of appropriate size under direct laryngoscopy and secured at angle of the mouth after checking for bilateral equal air entry in the chest. The cuff will be inflated with air and cuff pressure will be maintained between 18-22 cm of water with the use of a pressure monitoring transducer. Anesthesia would be maintained using O2:air (1:1) and Sevoflurane(2-4%). Depth of anesthesia will be monitored using Bispectral index. Sevoflurane will be adjusted to keep a BIS of 40-60. Inj. atracurium 0.1mg/kg maintenance dose would be given for muscle relaxation. The lungs will be mechanically ventilated to keep intraoperative Etco2 between 35-40mmHg. Inj. Paracetamol 1gm i.v. and inj. Ondansetron 4 mg will be given 30 minutes prior to extubation for analgesia and postoperative nausea and vomiting. At the end of surgery when surgical dressing is applied sevoflurane will be stopped and the time will be noted (T0). Neostigmine 0.05mg/kg and glycopyrrolate 0.01mg/kg for reversal will be used and patient extubated after recovery of adequate muscle power of diaphragm. The time of extubation will be noted as T1.

Heart rate, non invasive blood pressure, pulse oximetry and Etco2 will be recorded after intubation and then every 5 minutes during the intraoperative period till the patient is shifted to post Anesthesia care unit (PACU). Bradycardia will be treated with i.v. atropine 0.5mg and hypotension will be treated with iv ephedrine 3 mg increments and noted.

The patients will be shifted to PACU after they tell their name and the time of verbal response will be noted as T2.

During the period between extubation and shifting to PACU (T1 to T2), the level of agitation will be evaluated using the Riker agitation sedation scale immediately after extubation and thereafter every 5 mins till the patient tells his name and is shifted to PACU (T2). Agitation will also be evaluated immediately on shifting to PACU and after one hour of stay in PACU. The vitals along with VAS score will also be measured after every 15 minutes till one hour in PACU. VAS ≥ 4 will be

treated with rescue analgesic Injection Fentanyl 25 µgm i.v. and repeated after 15 mins if required. Emergence time will be calculated as the time interval between T2 and T0 (T2-T0). Durations of anesthesia and duration of surgery will be recorded.

EA is defined as a Riker score >5 after extubation.

Residual sedation is defined as a score of <3 after extubation.

Duration of Study/ Number of Cases:

By using previous study by Choi et al in 2021 as reference, the reported incidence of emergence agitation is 40% in control group and 17.8% in dexmedetomidine group.

Based on this assumption

The formula used in the situation is as under:

$n = [Z\ 1- \alpha/2 \sqrt{2}\ P\ (1-P) + Z\ 1- \beta\ .\sqrt{\{P1(1-P1) + P2\ (1-P2)\}}]2$

$(P1-P2)^2$

Where $P=(P1+P2)/2$

- Approximate value of efficacy/cure rate for standard treatment =P1
- Approximate value of efficacy/cure rate for other treatment = P2
- Effect size = (P2-P1)
- Level of significance (usually 5%)
- $Z\alpha$ = Value of standard normal variate corresponding to α level of significance (1.96)

$Z\beta$ = The standard normal deviate for desired power (0.842)

With the above assumptions the sample size for 95% confidence level & 80% power works out 62 in each group. With 10% drop out, we take the sample size to be 70 in each group.

Outcome

PRIMARY OUTCOME:

1) Incidence of EA in both groups.

SECONDARY OUTCOME:

1) Severity of EA in both groups.

2) Emergence time (Time interval from stopping sevoflurane to verbal response)

3) Effect on hemodynamic parameters.

STATISTICAL ANALYSIS:

Data will be described in terms of range; mean ±standard deviation (± SD), median, frequencies (number of cases) and relative frequencies (percentages) as appropriate. To determine whether the data is normally distributed, a Kolmogorov-Smirnov test will be used. Comparison of quantitative variables between the study groups will be done using Student t-test and Mann Whitney U test for independent samples for parametric and non-parametric data respectively. For comparing categorical data, Chi square ($\chi 2$) test will be performed and fisher exact test will be used when the expected frequency is less than 5. A probability value (p value) less than 0.05 will be considered statistically significant. All statistical calculations will be done using (Statistical Package for the Social Science) SPSS 21version (SPSS Inc., Chicago, IL, USA) statistical program for Microsoft Windows.

7.3 DOES THE STUDY REQUIRE ANY INVESTIGATIONS OR INTERVENTIONS TO BE CONDUCTED ON PATIENTS OR OTHER HUMANS OR ANIMALS? IF SO, PLEASE DESCRIBE BRIEFLY.

Yes.

7.4 HAS ETHICAL CLEARANCE BEEN OBTAINED FROM YOUR INSTITUTION IN CASE OF 7.3?

Yes, attached herewith.

8. LIST OF REFERENCES

(1) Wei B, Feng Y, Chen W, Ren D, Xiao D, Chen B. Risk factors for emergence agitation in adults after general anesthesia: A systematic review and meta-analysis. *Acta Anaesthesiol Scand*. 2021;65:719-29.

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PROFORMA

Sr number: Group:

MRD Number: Date of surgery:

Patient initials:

Age and Sex:

DEMOGRAPHIC DATA:

Height (cm): Weight(kgs): BMI(kg/m2):

ASA grade:

COMORBIDITIES:

Diabetes Mellitus: Hypertension:

IN PREOPERATIVE AREA:

Vitals	Heart rate	NIBP(mmhg)	spo2 (%)
0min (baseline)			
5min			
10min			
15min			
20min			

Signature of Candidate **Signature of Supervisor**

INTRAOPERATIVELY:

Vitals	Heart rate	NIBP	spo2	EtCO2
Before induction				
after intubation				
5 min				
10min				
15 min				
20 min				
25 min				
30 min				
35 min				
40 min				
45 min				
50 min				
55 min				
60 min				
65 min				
70 min				

Signature of Candidate **Signature of Supervisor**

75 min				
80 min				
85 min				
90 min				
95 min				
100 min				
105 min				
110 min				
115 min				
120 min				

RIKER SEDATION AND AGITATION SCALE:

On operating table	After extubation (T1) till verbal response (T2)	From OT to reaching PACU	In PACU AT 60 MIN
	0min 5min 10min 15min	0min 5min 10min 15min	

Signature of Candidate **Signature of Supervisor**

VITALS AFTER EXTUBATION TILL SHIFTING TO PACU

Vitals	Heart rate	NIBP	Spo2
At T1(0MIN)			
5 min			
10 min			
15 min			
20 min			
25 min			
30 min			
35 min			
40 min			

IN PACU:

Vitals	Heart rate	NIBP	Spo2	VAS score	Analgesic used
0 min					
15 min					
30 min					
45 min					
60 min					

INFORMED PATIENT CONSENT

Date: _____

I…….D/o, W/o, S/o……..…… am willing to participate in the study **"TO STUDY THE EFFECT OF DEXMEDETOMIDINE PREMEDICATION ON EMERGENCE AGITATION"** The procedure with its complications has been explained to me in local vernacular language. I have fully understood that no special tests and extra expenditure in any form, merely for the purpose of thesis is being carried out. I am free to opt out the study any time without assigning any reason.

……. ……
Signature of the Witness Signature of the patient

Name:

Signature of Candidate **Signature of Supervisor**

मरीज अनुमति फार्म

तिथि _____

मैं _____ पत्नी/पुत्र/पुत्री _____

निवासी _____

इस शोधकार्य "**TO STUDY THE EFFECT OF DEXMEDETOMIDINE PREMEDICATION ON EMERGENCE AGITATION"** में भाग लेने के लिए सहमत हूँ। मैं इस शोधकार्य में भाग लेने के लिए अपनी स्वेच्छा से तैयार हूँ। मैं पुष्टि करता/करती हूँ की यह स्वीकृति देने के लिए मुझे कोई आर्थिक प्रलोभन नहीं दिया गया और न ही दबाव डाला गया है। मुझे इस शोधकार्य का उद्देश्य स्पष्ट कर दिया गया है और मुझे यह विश्वास है की यह विज्ञान और मानवता के लाभ के लिए है। मुझे इस शोधकार्य में होने वाले जोखिम के बारे में समझा दिया गया है और मेरी समझ में यह जोखिम बहुत मामुली है।

मैं इस शोधकार्य में भाग लेने के सम्बन्ध में किसी भी समय अपनी अस्वीकृति व्यक्त कर सकता/सकती हूँ और मेरे अस्वीकृति व्यक्त करने का मेरे इलाज पर कोई प्रभाव नहीं पड़ेगा।

_____	_____
गवाह के हस्ताक्षर	रोगी के हस्ताक्षर/अंगूठे का निशान
नाम:	नाम:

_____

अन्वेषक के हस्ताक्षर

_____

विद्यार्थी के हस्ताक्षर

ਮਰੀਜ਼ ਰਜ਼ਾਮੰਦੀ ਫਾਰਮ

ਮਿਤੀ_____

ਮੈ_____ਪਤਨੀ/ਪੁੱਤਰ/ਪੁੱਤਰੀ_____

ਵਾਸੀ _____

“TO STUDY THE EFFECT OF DEXMEDETOMIDINE PREMEDICATION ON EMERGENCE AGITATION” ਤੇ ਚਲ ਰਹੀ ਖੋਜ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਰਜ਼ਾਮੰਦ ਹਾਂ। ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਮੈ ਆਪਣੀ ਮਰਜ਼ੀ ਨਾਲ ਤਿਆਰ ਹਾਂ। ਮੈ ਇਹ ਦਸਣਾ ਚਾਹੁੰਦਾ ਹਾਂ/ ਚਾਹੁੰਦੀ ਹਾਂ ਕੇ ਇਹ ਰਜ਼ਾਮੰਦੀ ਦੇਣ ਵਾਸਤੇ ਮੈਨੂ ਕਿਸੇ ਵੀ ਤਰਾਂ ਦਾ ਲੋਭ-ਲਾਲਚ ਨਹੀ ਦਿੱਤਾ ਗਿਆ ਅਤੇ ਨਾ ਹੀ ਕੋਈ ਦਬਾ ਪਾਇਆ ਗਿਆ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਦਾ ਮਨੋਰਥ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਭਰੋਸਾ ਦਵਾਇਆ ਗਿਆ ਹੈ ਕੇ ਇਹ ਖੋਜ ਵਿਗਿਆਨ ਅਤੇ ਮਾਨਵਤਾ ਦੀ ਭਲਾਈ ਲਈ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਵਿਚ ਹੋਣ ਵਾਲੇ ਖਤਰੇ ਬਾਰੇ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਯਕੀਨ ਹੈ ਕੇ ਇਹ ਖਤਰਾ ਬਹੁਤ ਮਾਮੂਲੀ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਦਾ ਢੰਗ – ਤਰੀਕਾ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ।

ਮੈ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਬਾਰੇ ਆਪਣੀ ਰਜ਼ਾਮੰਦੀ ਕਿਸੇ ਵੀ ਸਮੇ ਵਾਪਸ ਲੈ ਸਕਦਾ ਹਾਂ/ ਸਕਦੀ ਹਾਂ ਅਤੇ ਮੇਰੀ ਰਜ਼ਾਮੰਦੀ ਵਾਪਸ ਲੈਣ ਦਾ ਮੇਰੇ ਇਲਾਜ ਤੇ ਕੋਈ ਅਸਰ ਨਹੀ ਹੋਵੇਗਾ।

_____ _____

ਗਵਾਹ ਦੇ ਹਸਤਾਖਰ ਮਰੀਜ਼ ਦੇ ਹਸਤਾਖਰ

ਮਿਤੀ_____ ਮਿਤੀ_____

ਪਤਾ _____ ਪਤਾ _____

_____

ਨਿਰੀਖਕ ਦੇ ਹਸਤਾਖਰ

_____

ਸਿਖਿਆਰਥੀ ਦੇ ਹਸਤਾਖਰ